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**WIND TUNNEL INVESTIGATION OF NACELLE-AIRFRAME INTERFERENCE
AT MACH NUMBERS OF 0.9 to 1.4 – FORCE DATA**

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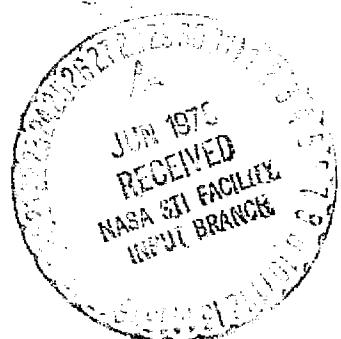
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TABLE OF CONTENTS

	Page
SUMMARY	1
INTRODUCTION	1
NOMENCLATURE	2
MODEL AND INSTRUMENTATION	6
Aerodynamic Model	6
Nacelles	6
Nacelle Support System	7
Boundary-Layer Trips	8
RESULTS AND DISCUSSION - FORCE DATA	8
REFERENCES	9
TABLES	
1. WING PLANFORM	10
2. WING THICKNESS DISTRIBUTION	11
3. NACELLE BALANCE CORRECTIONS	12
4. RANGE OF TRAVEL OF THE NACELLE DRIVES	13
5. RANGE OF NACELLE POSITIONS RELATIVE TO MODEL COORDINATES	13
6. CONFIGURATION DESCRIPTION	14
7. INDEX OF PLOTTED DATA (FORCE)	15
MODEL FIGURES	
1. INSTALLATION PHOTOGRAPHS	20
2. WIND TUNNEL MODEL AND INSTRUMENTATION	22

TABLE OF CONTENTS

	Page
3. NACELLE SUPPORT SYSTEM	27
DATA FIGURES	
4. INTERFERENCE EFFECTS OF AFT NACELLE	1
5. EFFECTS OF ANGLE-OF-ATTACK ON ISOLATED NACELLE FORCES	2
6. EFFECTS OF MASS-FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS	6
7. INTERFERENCE OF STING FAIRING ON NACELLE AXIAL FORCE	34
8. EFFECTS OF NACELLE POSITION ON NACELLE FORCES	36
9. EFFECTS OF ANGLE-OF-ATTACK ON NACELLE FORCES	52
10. EFFECTS OF MASS-FLOW RATIO ON NACELLE AXIAL FORCE	58
11. EFFECTS OF NACELLE POSITION ON NACELLE AND WING-BODY FORCES..	64
12. EFFECTS OF MASS-FLOW RATIO ON NACELLE AND WING-BODY FORCES...	99
13. EFFECTS OF ANGLE-OF-ATTACK ON NACELLE AND WING-BODY FORCES...	141
14. EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES	211
15. EFFECTS OF ANGLE-OF-ATTACK ON ISOLATED WING-BODY FORCES	217
16. EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING-BODY FORCES	238

WIND TUNNEL INVESTIGATION OF NACELLE-AIRFRAME INTERFERENCE

AT MACH NUMBERS OF 0.9 TO 1.4 - FORCE DATA

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SUMMARY

Detailed interference force and pressure data were obtained on a representative wing-body-nacelle combination at Mach numbers of 0.9 to 1.4. The model consisted of a delta wing-body aerodynamic force model with four independently supported nacelles located beneath the wing-body combination. The model was 62.2 in. long and had a wing span of 40.8 in. The model was mounted on a six-component force balance, and the left-hand wing was pressure-instrumented. Each of the two right-hand nacelles was mounted on a six-component force balance housed in the thickness of the nacelle, while each of the left-hand nacelles was pressure-instrumented. The nacelle support system provided the flexibility of varying the position of the nacelles relative to the wing-body combination and each other, and the capability of controlling the mass flow through each nacelle.

The experimental program was conducted in the Ames 11- by 11-Foot Wind Tunnel at a constant unit Reynolds number of $3.0 \times 10^6/\text{ft}$. The primary variables examined included Mach number, angle of attack, nacelle position, and nacelle mass-flow ratio. Four different configurations were tested to identify various interference forces and pressures on each component; these included tests of the isolated nacelle, the isolated wing-body combination, the four nacelles as a unit, and the total wing-body-nacelle combination. Nacelle axial location, relative to both the wing-body combination and to each other, was the most important variable in determining the net interference among the components. The overall interference effects were found to be essentially constant over the operating angle-of-attack range of the configuration, and nearly independent of nacelle mass-flow ratio.

INTRODUCTION

To achieve a substantial increase in cruise speed of current transport aircraft, recent efforts have been devoted to exploring the feasibility of a low supersonic transport aircraft which does not produce a

noticeable overpressure at ground level (ref. 1). Due to the inherently high drag and large interference effects associated with the transonic Mach number range, the design of an efficient aircraft is critically dependent upon the integration of the various components. This is particularly true for the propulsion system design and integration, since the installation effects must be included in the selection of the engine cycle. Little data is available that is directly applicable to propulsion system integration problems at these Mach numbers. Therefore, an experimental program was formulated to obtain detailed interference data on a representative transport over this Mach number range. The principal objectives of this program were to evaluate the performance penalties associated with the propulsion system installation and operation and to acquire detailed force and pressure data to be used for the evaluation of analytical techniques. The force data is presented in this report, and the pressure data is presented in reference 2.

NOMENCLATURE

The lift, drag, and pitching moment of the wing-body and wing-body-nacelle configurations are presented in the stability-axis coordinate system. The individual nacelle forces are presented in the body-axis coordinate system.

<u>Symbol</u>	<u>Definition</u>
A_{AC}	nacelle aft cavity cross-sectional area
A_c	nacelle capture area of nacelle; πR_c^2
A_{FC}	nacelle forward cavity cross-sectional area
A_L	nacelle lip cavity cross-sectional area
A_{S1}	first-order, nacelle seal, balance constant
A_{S2}	second-order, nacelle seal, balance constant
A_{SF}	nacelle forward internal lip surface area
ALPHA	angle of attack
B	wing span, 40.8 in.
C	chord

<u>Symbol</u>	<u>Definition</u>
CAI,CAO	axial force coefficient of inboard and outboard nacelles, respectively; axial force/ qA_c
CAO-AC	aft cavity, outboard nacelle, axial force balance correction; aft cavity axial force/ qA_c (table 3)
CAO-FC	forward cavity, outboard nacelle, axial force balance correction; forward cavity axial force/ qA_c (table 3)
CAO-L	lip cavity, outboard nacelle, axial force balance correction; forward lip cavity axial force/ qA_c (table 3)
CAO-S	seal, outboard nacelle, axial force balance correction; seal force/ qA_c (table 3)
CAO-SF	internal lip skin friction, outboard nacelle, axial force balance correction; internal lip frictional force/ qA_c (table 3)
CAO-T	total outboard nacelle, axial force balance correction; (CAO-AC) + (CAO-FC) + (CAO-L) + (CAO-S) + (CAO-SF), added to gross axial force coefficient (table 3)
CD-WB	drag coefficient of wing-body combination; drag of wing-body/ qS
CD-WBN	drag coefficient of wing-body-nacelle combination; drag of wing-body plus drag of nacelles/ qS
CFO	internal lip, average skin-friction coefficient
CLMI,CLMO	pitching-moment coefficient of inboard and outboard nacelles, respectively; pitching moment/ qLA_c
CL-WB	lift coefficient of wing-body combination; lift of wing-body/ qS
CL-WBN	lift coefficient of wing-body-nacelle combination; lift of wing-body plus lift of nacelles/ qS
CM-WB	pitching-moment coefficient of wing-body combination; pitching moment of wing-body/ $qC_R S$

<u>Symbol</u>	<u>Definition</u>
CM-WBN	pitching-moment coefficient of wing-body-nacelle combination; pitching moment of wing-body plus pitching moment of nacelles/ $qC_R S$
CNI,CNO	normal force coefficient of inboard and outboard nacelles, respectively; normal force/ qA_c
C_R	reference root chord of wing-body combination, 29.23 in.
CYI,CYO	side-force coefficient of inboard and outboard nacelles, respectively; side force/ qA_c
CYNI,CYNO	yawing-moment coefficient of inboard and outboard nacelles, respectively; yawing moment/ qLA_c
DX	axial position of the outboard nacelle tip minus the axial position of the inboard nacelle tip, $(X-OUTBD) - (X-INBD)$
DXI	axial position of the outboard left-hand (pressure instrumentation) nacelle minus the axial position of the outboard right-hand (force-instrumented) nacelle
L	nacelle length, 10.54 in.
L	lower wing surface
L/D-WB	lift-to-drag ratio of wing-body combination, $(CL-WB)/(CD-WB)$
L/DWBN	lift-to-drag ratio of wing-body-nacelle combination, $(CL-WBN)/(CD-WBN)$
MFR-AV	average mass-flow ratio of the four nacelles
MFR-LI	mass-flow ratio of left-hand inboard nacelle
MFR-LO	mass-flow ratio of left-hand outboard nacelle
MFR-RI	mass-flow ratio of right-hand inboard nacelle
MFR-RO	mass-flow ratio of right-hand outboard nacelle

<u>Symbol</u>	<u>Definition</u>
MO	average Mach number over the internal lip surface of outboard nacelle
PAC	average, nacelle aft balance cavity static pressure
PB1/PI	ratio of average wing-body base pressure to free stream
PB2/PI	ratio of average wing-body sting cavity pressure to free stream
PFC	average, nacelle forward balance cavity static pressure
PI	free stream static pressure
PL	average, nacelle internal lip static pressure
q	free stream dynamic pressure
R	nacelle radius
R_c	nacelle capture radius
RNO	average Reynolds number $\times 10^{-6}$ over the internal lip surface of outboard nacelle
S	reference wing area, 4.435 ft^2
<u>U</u>	upper wing surface
WDP	wing design plane (figure 2(a))
X	wing-body axial coordinate, positive going downstream (figure 2(a))
X-INBD	X coordinate of the inboard nacelle lip
X-MA	X coordinate of the inboard nacelle lip with the delta axial drive at its most forward position
X-OUTBD	X coordinate of the outboard nacelle lip
x	local nacelle or root chord axial coordinate
Y	wing-body lateral coordinate, positive out left-hand wing (figure 2(a))

<u>Symbol</u>	<u>Definition</u>
2YI/B	lateral position of the inboard nacelles as a fraction of the semispan
2YO/B	lateral position of the outboard nacelles as a fraction of the semispan
Z	wing-body vertical coordinate, positive up (figure 2(a))
z	local wing surface coordinate
θ, THETA	angular location of pressure orifices on the nacelle, 0° at top and positive going clockwise, looking downstream

MODEL AND INSTRUMENTATION

The wind tunnel model consisted of a basic wing-body combination with four independently supported nacelles located beneath the model. Photographs of the model and support system installed in the Ames 11-by 11-Foot Wind Tunnel are shown in figures 1(a) and 1(b).

Aerodynamic Model

The aerodynamic force model consisted of a delta wing-body combination, shown in figure 2(a), and was designated WB. The model had an over-all length of 62.2 in. and a wing span of 40.8 in. The wing had a delta planform with a leading-edge sweep of 50.5° and a leading-edge extension with a sweep of 75.0°. The reference wing area and root chord were 4.435 ft² and 29.23 in., respectively. The wing coordinates are tabulated in tables 1 and 2. The model was supported by a six-component internal strain gage balance, and the moment center was located at X = 52.92 in. and Z = 5.04 in. The left-hand wing was pressure-instrumented with 95 static pressure orifices on the lower surface and 31 on the upper surface; the location of the orifices is described in figure 2(b).

Nacelles

Two different nacelle geometries were tested and are described in figure 2(c). Nacelle N1 employed a sharp cowl lip while nacelle N2 employed a slightly blunt tip. The nacelle contours are included in figure

2(c). To adequately support the nacelles while maintaining an unrestricted flow passage through the nacelle and support sting, the aft end of the nacelle was modified as illustrated in figure 2(c).

Of the four individual nacelles supported beneath the wing-body model, the two on the left-hand side (looking upstream) were pressure-instrumented, and each of the two nacelles on the right side was mounted on a six-component internal strain gage balance. The locations of the surface static pressure orifices on the N1 and N2 nacelles are presented in figure 2(d). The two six-component force balances used to support the right-hand nacelles were housed in the thickness of each nacelle. The balance is basically a two-shell, flow-through force balance using eight instrumented flexures located 90° apart at two axial locations. A schematic, showing the balance installed within the contours of the N1 nacelle, is presented in figure 2(e). To prevent flow through the balance cavity, the metric and non-metric components were bridged with a flexible rubber seal, as indicated in figure 2(e). To provide the necessary base area corrections for each nacelle, the pressure on the flow side of the seal was measured, as were the pressures in the forward and aft balance cavities. The pressure instrumentation is outlined in figure 2(e). Five separate corrections, described in table 3, were applied to the measured nacelle axial force balance readings to obtain the final aerodynamic data. These corrections included the pressure forces within the forward and aft balance cavities, on the forward lip cavity, across the balance seal, and the skin friction on the internal nacelle lip. The areas associated with each of these forces are identified in figure 2(e) and listed in table 3. The cross-sectional areas for the forward and aft balance cavity forces and the forward lip force were based on the physical geometry of the nacelles, while the seal force was obtained through a calibration of the nacelle-balance system. The internal skin friction from the nacelle lip to the seal was based on the average turbulent skin friction for this length, as indicated in reference 3.

Nacelle Support System

The nacelle support system, shown in figure 3, was designed to independently support four nacelles beneath the wing-body combination while providing the flexibility of positioning the nacelles relative to both the wing-body combination and themselves. The support system also provided the independent control and measurement of the mass flow through each nacelle. The major components of the nacelle support system consisted of the main cross support, four vertical support and positioning units, and four flow-through nacelle stings and flow-metering units.

Eleven independent drives provided, in effect, a three-dimensional, nacelle-positioning capability. These included two lateral drives which positioned the inboard and outboard nacelle pairs symmetrically about

the vertical center line. Four vertical drives were used to control the vertical position of the four nacelle stings. A main axial drive controlled the position of the main cross support and hence the position of all four nacelles as a single unit. Each nacelle sting had a delta axial drive unit which allowed the position of each individual nacelle to be varied relative to the other three. Of the 11 drives, all were remotely controlled except the four vertical drives, which were manually operated. The maximum travel of each drive, relative to its mid-position, is summarized in table 4, and the range of achievable nacelle positions, in the coordinate system of the wing-body model, is presented in table 5. Incorporated into each nacelle sting was a mass-flow control plug to vary and appropriate instrumentation to measure the flow through each nacelle. Each plug was remotely controlled.

Boundary-Layer Trips

To insure a turbulent boundary layer over the wing-body combination and nacelles, transition trips were applied to each of these components. The trips consisted of glass beads with a diameter range of 0.0049 in. to 0.0058 in. The transition strips, each 0.0625 in. wide, were located on: the fuselage, 1.5 in. downstream of the nose; the upper and lower surfaces of the wing, 0.75 in. behind and parallel to the wing leading edge; the nacelles, 1.00 in. downstream of the nacelle tip. Trip effectiveness was verified through the use of sublimation tests.

RESULTS AND DISCUSSION - PRESSURE DATA

A listing of the configurations tested is given in table 6 and a detailed tabulation of the data plotted is given in table 7. The pressure data on the outboard nacelle is presented in figure 4, the inboard nacelle data in figure 5, the lower wing surface data in figure 6, and the upper wing surface data in figure 7. The isolated nacelle characteristics of both nacelles at two different angles of attack and mass-flow ratios are presented in figure 4, items 1 through 4 (see table 7). The nacelle-nacelle interference effects are contained in figure 4, items 5 through 10, and figure 5, items 19 through 24 as a function of nacelle axial and lateral position and mass-flow ratio. The wing-body-nacelle characteristics are shown in figure 4, items 11 through 18; figure 5, items 25 through 32; figure 6, items 33 through 40; and figure 7, items 45 through 52. The effects of variations in nacelle axial and lateral position, nacelle stagger, angle of attack, and mass-flow ratio are presented. The vertical positions of the nacelles were held constant; the centerlines of the inboard nacelles were located at $Z = 2.44$ in. and the centerlines of the outboard nacelles at $Z = 3.02$ in. The isolated wing-body characteristics were obtained with the nacelle support mounted behind the model to allow the interference of the support system, as a function of its position, to be identified. These results are presented in figure 6, items 40 through

The characteristics of the wing-body-nacelle combination are shown in figures 11, 12, 13, and 14. The results are presented in terms of the wing-body forces, the nacelle forces, and the combined wing-body-nacelle forces. The vertical positions of the nacelles were held constant; the centerline of the inboard nacelles was located at $Z = 2.44$ in., and the centerline of the outboard nacelles at $Z = 3.02$ in. Figure 11 presents the effects of nacelle axial position; figure 12, the effects of mass-flow ratio; figure 13, the effects of angle of attack; and figure 14, the effects of nacelle lateral position.

The isolated wing-body characteristics are presented in figures 15 and 16. The isolated wing-body data was obtained with the nacelle support system mounted behind the model to allow the interference of the support system, as a function of its position to be identified. These results also are presented in figures 15 and 16.

In all cases, data is presented over the Mach number range tested. However, care must be exercised in using the data for Mach numbers near 1.0 because of the significant interference of the nacelle support system on the wing-body combination. An analysis of the interference forces and pressures on the various components for limited portions of the data contained herein is presented in reference 4.

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October 23, 1975

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TABLE 1. - WING PLANFORM

%2Y/B	Y in.	c in.	*	*
			$z_{L.E.}$ in.	$z_{T.E.}$ in.
0.0	0	39.88	-.567	-.295
9.80	2.0	32.20	-.755	+.038
19.61	4.0	25.26	-.663	+.360
29.41	6.0	21.44	-.265	+.692
39.22	8.0	18.74	-.062	+.842
49.02	10.0	16.22	+.044	+.800
58.82	12.0	13.80	+.085	+.689
68.63	14.0	11.35	+.092	+.557
78.43	16.0	8.94	+.096	+.454
88.24	18.0	6.47	+.102	+.340
98.04	20.0	3.58	+.088	+.250

*z measured relative to the wing design plane (WDP) at Z = 4.68 in

TABLE 2. - WING THICKNESS DISTRIBUTION - % z/c*

%2Y/B+	0.0		9.00		19.61		29.41		39.22		49.02		58.82		
% c	+	U	L	U	L	U	L	U	L	U	L	U	L	U	L
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	1.17	.48	.99	.21	.62	.19	.29	.36	.34	.34	.27	.33	.27	.33
	10	1.77	.60	1.61	.36	1.07	.42	.52	.66	.54	.66	.45	.64	.47	.60
	15	2.11	.72	2.05	.49	1.50	.66	.73	.93	.72	.92	.63	.91	.68	.83
	20	2.28	.83	2.31	.63	1.91	.95	.92	1.16	.88	1.15	.80	1.12	.86	1.04
	30	2.31	1.01	2.50	.92	2.55	1.48	1.23	1.55	1.10	1.57	1.04	1.48	1.15	1.36
	40	2.15	1.16	2.51	1.19	2.76	1.89	1.39	1.81	1.21	1.81	1.16	1.70	1.32	1.56
	50	2.07	1.31	2.37	1.43	2.58	2.13	1.38	1.94	1.21	1.93	1.18	1.81	1.36	1.65
	60	1.81	1.46	2.09	1.59	2.19	1.91	1.25	1.89	1.11	1.87	1.13	1.75	1.28	1.59
	70	1.46	1.52	1.65	1.55	1.67	1.49	1.03	1.64	.96	1.60	1.00	1.52	1.09	1.43
	80	.99	1.29	1.10	1.27	1.15	1.06	.74	1.20	.71	1.16	.78	1.08	.79	1.13
	90	.45	.75	.51	.79	.64	.57	.40	.64	.43	.62	.48	.55	.43	.60
	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%2Y/B+	68.63		78.43		88.24		98.04								
% c	+	U	L	U	L	U	L	U	L						
	0	0	0	0	0	0	0	0	0						
	5	.34	.30	.26	.31	.29	.32	.89	.34						
	10	.53	.57	.43	.58	.47	.63	1.14	.68						
	15	.73	.81	.62	.83	.64	.86	1.36	.93						
	20	.91	1.00	.92	1.03	.81	1.15	1.61	1.19						
	30	1.22	1.33	1.15	1.33	1.09	1.37	1.88	1.55						
	40	1.43	1.45	1.33	1.52	1.34	1.56	1.99	1.70						
	50	1.49	1.53	1.39	1.60	1.42	1.61	1.98	1.70						
	60	1.54	1.49	1.33	1.53	1.42	1.53	1.92	1.60						
	70	1.22	1.31	1.15	1.33	1.35	1.31	1.64	1.49						
	80	.93	1.02	.89	.99	1.12	.95	1.30	1.13						
	90	.53	.54	.55	.54	.82	.50	.93	.67						
	100	0	0	0	0	0	0	0	0						

* z measured normal to local chord line

TABLE 3. - NACELLE BALANCE CORRECTIONS

<u>Correction*</u>	<u>Symbol</u>	<u>Expression</u>
Aft balance cavity	CAO-AC	$-(PAC-PI) A_{AC}/qA_c$
Forward balance cavity	CAO-FC	$(PFC-PI) A_{FC}/qA_c$
Lip cavity	CAO-L	$(PL-PI) A_L/qA_c$
Seal	CAO-S	$\frac{(PFC-PL) A_{S1} + (PFC-PL)^2 A_{S2}}{qA_c}$
Skin friction	CAO-SF	$\left[\frac{\frac{0.455}{(\log_{10} R_N0)^{2.58}} - \frac{1050}{R_N0}}{1.0 + 0.85 \frac{\gamma-1}{2} M_0^2} \right] \frac{A_{SF}}{A_c}$
Total	CAO-T	$(CAO-AC) + (CAO-FC) + (CAO-L) + (CAO-S) + (CAO-SF)$

Constants:

$$A_{AC} = 0.959 \text{ in}^2$$

$$A_{FC} = 1.141 \text{ in}^2$$

$$A_L = 0.565 \text{ in}^2$$

$$A_{S1} = 0.807 \times 10^{-3} \text{ in}^2 \text{ (INB'D)}; 1.194 \times 10^{-3} \text{ in}^2 \text{ (OUTB'D)}$$

$$A_{S2} = 0.17 \times 10^{-6} \text{ in}^4/\text{lb} \text{ (INB'D)}; 0.30 \times 10^{-6} \text{ in}^4/\text{lb} \text{ (OUTB'D)}$$

$$A_{SF} = 12.283 \text{ in}^2$$

* Balance corrections added to nacelle balance axial force

TABLE 4. - RANGE OF TRAVEL OF THE NACELLE DRIVES

Drive	Range Relative to <u>Mid Position</u>
Inboard lateral	± 2.10 in ¹
Outboard lateral	± 2.10 in ²
Vertical	± 2.50 in
Main axial	± 6.00 in
Delta axial	± 4.00 in

TABLE 5. - RANGE OF NACELLE POSITIONS RELATIVE TO MODEL COORDINATES
(Figure 2(a))

<u>Position</u>	<u>Range</u>
Inboard lateral	$4.08 \leq Y \leq 8.28$ in ¹
Outboard lateral	$8.04 \leq Y \leq 12.24$ in ²
Vertical	$-1.97 \leq Z \leq 3.03$ in
Axial	$40.0 \leq X \leq 60.0$ in ³

1- Outboard lateral drive at outboard limit

2- Inboard lateral drive at inboard limit

3- Maximum axial separation of any two nacelles limited to 8.0 in.

TABLE 6. - CONFIGURATION DESCRIPTION

No.	Config.	Left-Hand Outb'd	Nacelles Inb'd	Right-Hand Inb'd	Nacelles Outb'd	Wing-Body
1	N1	N1	*	*	N1	**
2	N2	N2	*	*	N2	**
3	N2N2	N2	N2	N2	N2	**
4	N1N1	N1	N1	N1	N1	**
5	WBN1N1	N1	N1	N1	N1	WB
6	WBN2N2	N2	N2	N2	N2	WB
7	WB***	*	*	*	*	WB

*- Nacelle and nacelle sting not installed

**- Wing-body not installed, sting fairing installed

***-Nacelle support system installed, but nacelles and nacelle stings not installed

TABLE 7. - INDEX OF PLOTTED DATA (Force)

<u>Fig.</u>	<u>Title</u>	<u>Config.</u>	<u>Dependent Variable</u>	<u>Independent Variable</u>	<u>Independent Parameter*</u>	<u>Nominal ALPHA</u>	<u>MFR</u>	<u>Plot Page(s)</u>
4	Interference effects of aft nacelle	N1	CAO	DXI	—	0°	Max.	1
5	Effects of angle-of-attack on isolated nacelle forces	N1,N2	CNO,CAO, CLMO,MFR-R0	ALPHA	Config.	Var.	Max.	2-5
6	Effects of mass-flow ratio on isolated nacelle characteristics	N1,N2	CAO	MFR-R0	Config.	0°	Var.	6-12
15	Effects of mass-flow ratio on isolated nacelle characteristics	N1,N2	CAO-T,CAO-L	MFR-R0	Config.	0°	Var.	13-19
	Effects of mass-flow ratio on isolated nacelle characteristics	N1,N2	CAO-FC,CAO-AC,MFR-R0 CAO-SF,CAO-S	Config.		0°	Var.	20-26
	Effects of mass-flow ratio on isolated nacelle characteristics	N1,N2	CFO,MO RNO	MFR-R0	Config.	0°	Var.	27-33
	Interference of sting fairing on nacelle axial force	N2N2	CAI,CAO	X-INBD	—	0°	Max.	34-35
	Effects of nacelle position on nacelle forces	N1N1 N2N2	CAI,CAO	DX	Config.	0°	Max.	36-42
8	Effects of nacelle position on nacelle forces	N1N1	CAO,CAI, CNO,CNI	DX	2Y1/B=.23,.25,.30 2Y0/B=.60,.55,.50	0°	Max.	43-45

* Mach number is an independent parameter in all cases

TABLE 7. - Continued

<u>Fig.</u>	<u>Title</u>	<u>Config.</u>	<u>Dependent Variable</u>	<u>Independent Variable</u>	<u>Independent Parameter*</u>	<u>Nominal ALPHA</u>	<u>MFR</u>	<u>Plot Page(s)</u>
8	Effects of nacelle position on nacelle forces	N1N1	CLMO,CLMI CYO,CYI	DX	2YI/B=.23,.25,.30 2YO/B=.60,.55,.50	0°	Max.	46-48
8	Effects of nacelle position on nacelle forces	N1N1	CYNO,CYNI	DX	2YI/B=.23,.25,.30 2YO/B=.23,.25,.30	0°	Max.	49-51
9	Effects of angle-of-attack on nacelle forces	N1N1, N2N2	CAO,CAI	ALPHA	Config.	Var.	Max.	52-54
9	Effects of angle-of-attack on nacelle forces	N1N1, N2N2	MFR-RO,MFR-RI MFR-LO,MFR-LI	ALPHA	Config.	Var.	Max.	55-57
10	Effects of mass-flow ratio on nacelle axial force	N1N1 N2N2	CAO,CAI	MFR-AV	Config.	0°	Var.	58-60
10	Effects of mass-flow ratio on nacelle axial force	N1N1 N2N2	MFR-RO,MFR-RI,MFR-AV MFR-LO,MFR-LI		Config.	0°	Var.	61-63
11	Effects of nacelle position on nacelle and wing-body forces	WBN1N1, WBN2N2	CD-WB, CD-WBN	X-INBD	DX=0,4,8 and config.	0°	Max.	64-70
11	Effects of nacelle position on nacelle and wing-body forces	WBN1N1, WBN2N2	CL-WB,CL-WBN CM-WB,CM-WBN	X-INBD	DX=0,4,8 and config.	0°	Max.	71-77
11	Effects of nacelle position on nacelle and wing-body forces	WBN1N1, WBN2N2	CAO,CAI	X-INBD	DX=0,4,8 and config.	0°	Max.	78-84
11	Effects of nacelle position on nacelle and wing-body forces	WBN1N1, WBN2N2	CN0,CNI, CLMO,CLMI	X-INBD	DX=0,4,8 and config.	0°	Max.	85-91

* Mach number is an independent parameter in all cases

TABLE 7. - Continued.

<u>Fig.</u>	<u>Title</u>	<u>Config.</u>	<u>Dependent Variable</u>	<u>Independent Variable</u>	<u>Independent Parameter*</u>	<u>Nominal ALPHA</u>	<u>MFR</u>	<u>Plot Page(s)</u>
11	Effects of nacelle position on nacelle and wing-body forces	WBN1N1, WBN2N2	ALPHA, MFR-AV, PB1/PI, PB2/PI	X-INBD	DX=0,4,8 and config.	0°	Max.	92-98
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	CD-WB, CD-WBN	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	99-105
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	CL-WB, CL-WBN, CM-WB, CM-WBN	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	106-112
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	CAO, CAI	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	113-119
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	CNO, CNI, CLMO, CLMI	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	120-126
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	MFR-R0, MFR-RI, MFR-L0, MFR-LI	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	127-133
12	Effects of mass-flow ratio on nacelle and wing-body forces	WBN1N1, WBN2N2	ALPHA	MFR-AV	X-INBD=40,48, 56 and config.	0°	Var.	134-140
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, WBN2N2	CD-WB	CL-WB	X-INBD=40,48, 56 and config.	Var.	Max.	141-147
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, WBN2N2	CD-WBN	CL-WBN	X-INBD=40,48, 56 and config.	Var.	Max.	148-154
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, WBN2N2	CL-WB, CL-WBN	ALPHA	X-INBD=40,48, 56 and config.	Var.	Max.	155-161

* Mach number is an independent parameter in all cases

TABLE 7. - Continued.

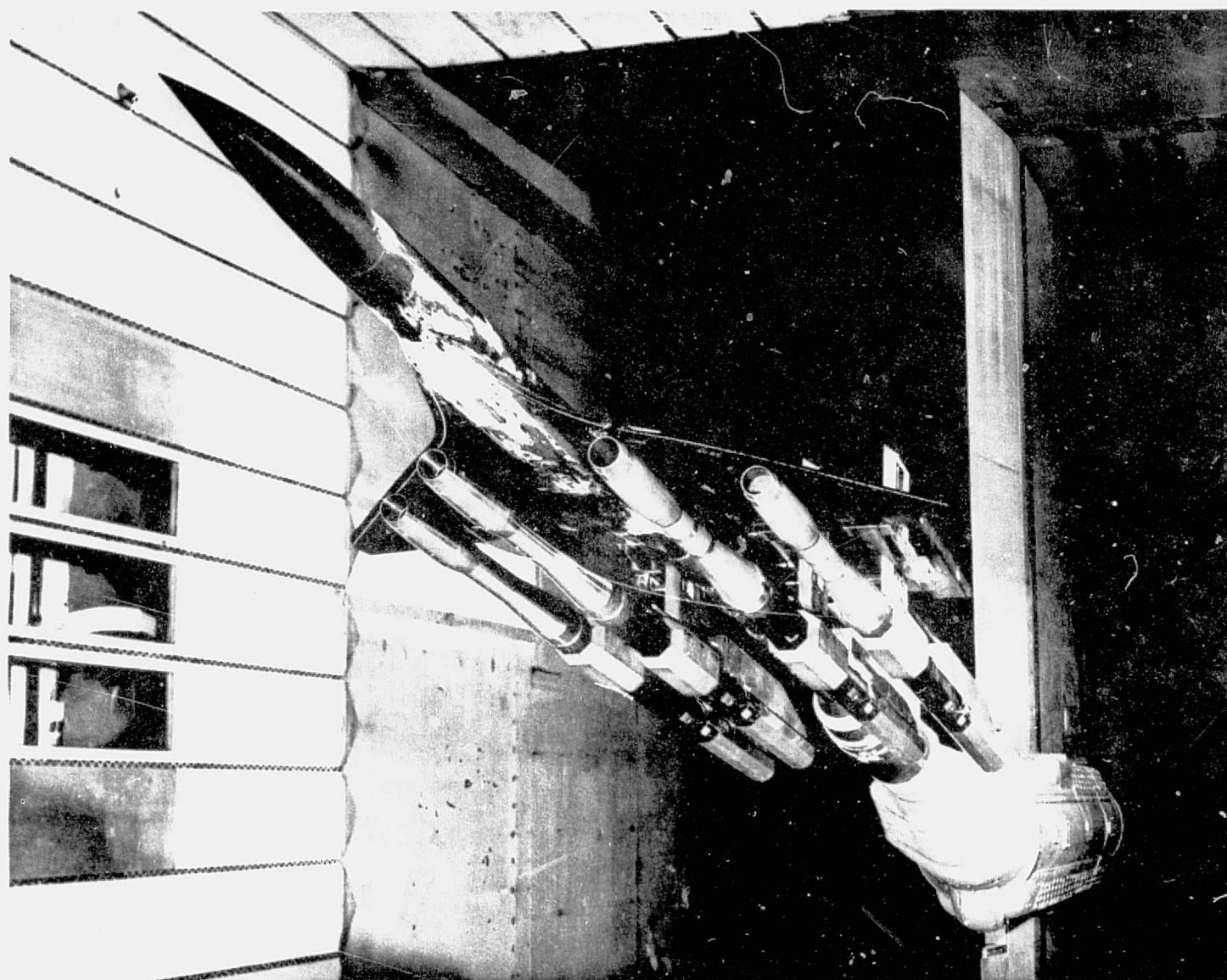
<u>Fig.</u>	<u>Title</u>	<u>Dependent Config.</u>	<u>Independent Variable</u>	<u>Independent Parameter*</u>	<u>Nominal ALPHA</u>	<u>MFR</u>	<u>Plot Page(s)</u>
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, L/D-WB, WBN2N2 L/D-WBN	CL-WB, CL-WBN	X-INBD=40,48 56 and config.	Var.	Max.	162-168
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, CM-WB, WBN2N2 CM-WBN	CL-WB CL-WBN	X-INBD=40,48 56 and config.	Var.	Max.	169-175
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, CA0,CAI WBN2N2	ALPHA	X-INBD=40,48 56 and config.	Var.	Max.	176-182
13	Effects of angle-of-attack on nacelle and wing-bdoy forces	WBN1N1, CNO,CNI WBN2N2	ALPHA	X-INBD=40,48 56 and config.	Var.	Max.	183-189
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, CLMO,CLMI WBN2N2	ALPHA	X-INBD=40,48 56 and config.	Var.	Max.	190-196
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, MFR-RO,MFR-RI WBN2N2 MFR-LO,MFR-LI	ALPHA	X-INBD=40,48 56 and config.	Var.	Max.	197-203
13	Effects of angle-of-attack on nacelle and wing-body forces	WBN1N1, PB1/PI,PB2/PI WBN2N2	ALPHA	X-INBD=40,48 56 and config.	Var.	Max.	204-210

TABLE 7. - Concluded

<u>Fig.</u>	<u>Title</u>	<u>Config.</u>	<u>Dependent Variable</u>	<u>Independent Variable</u>	<u>Independent Parameter*</u>	<u>Nominal ALPHA</u>	<u>MFR</u>	<u>Plot Page(s)</u>
14	Effects of nacelle spanwise location on nacelle and wing-body forces	WB/N1N1	CD-WB, CD-WBN	2YI/B**	X-INBD=40,48 56 and config.	0°	Max.	211-216
15	Effects of angle-of-attack on isolated wing-body forces	WB	CD-WB	CL-WB	X-MA=40,48 52	Var.	—	217-223
15	Effects of angle-of-attack on isolated wing-body forces	WB	CL-WB, CM-WB	ALPHA, CL-WB	X-MA=40,48 52	Var.	—	224-230
6 15	Effects of angle-of-attack on isolated wing-body forces	WB	PB1/PI, PB2/PI, L/D-WB	ALPHA, CL-WB	X-MA=40,48 52	0°	—	231-237
16	Effects of support system position on isolated wing-body forces	WB	CD-WB,CL-WB, CM-WB,ALPHA	X-INBD	X-MA=40,48 52	0°	—	238-244
16	Effects of support system position on isolated wing-body	WB	PB1/PI,PB2/PI	X-INBD	X-MA=40,48	0°	—	245-251

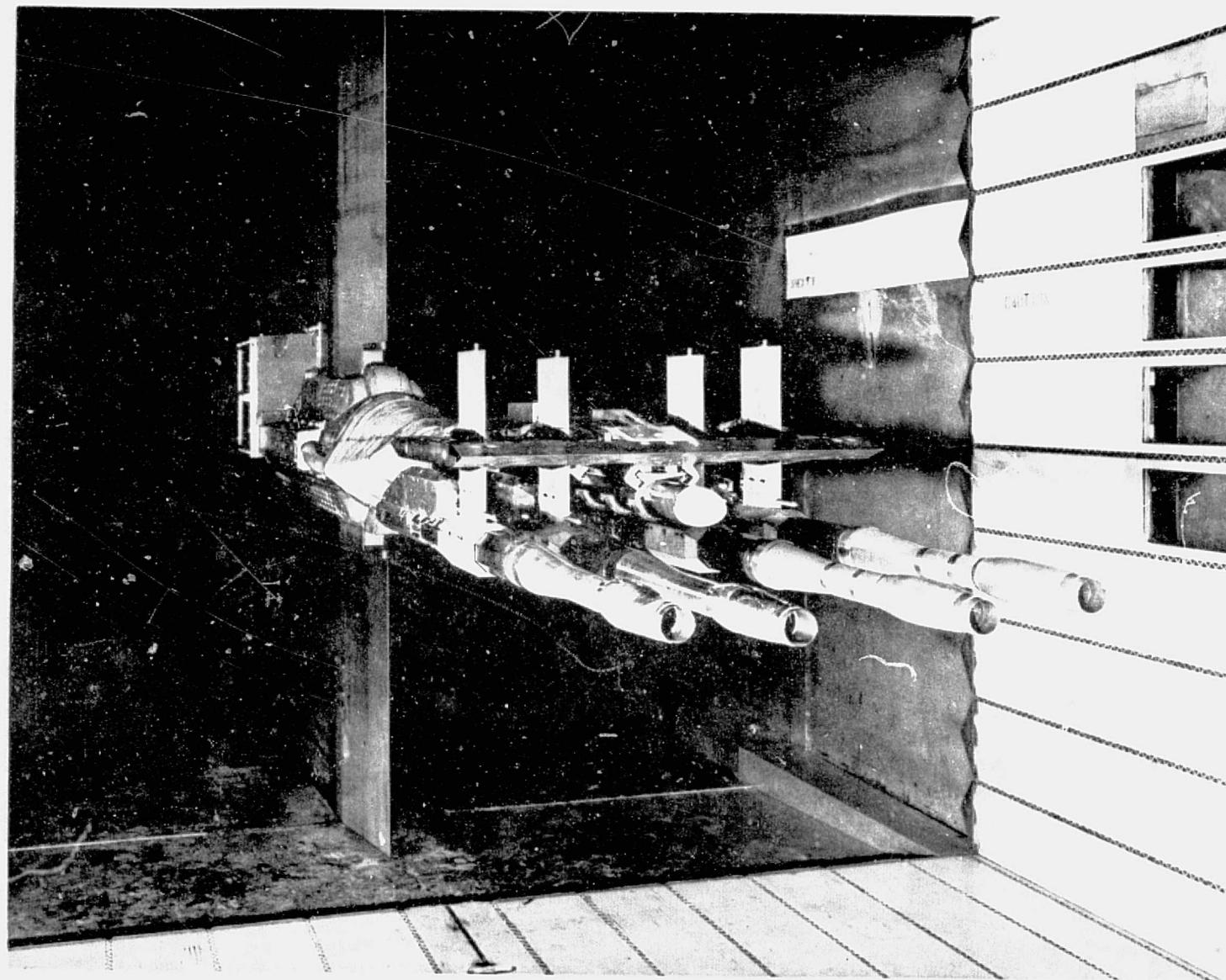
* Mach number is an independent parameter in all cases ** The corresponding values of 2Y0/B are:

2YI/B	2Y0/B
.23	.60
.25	.55
.55	.50



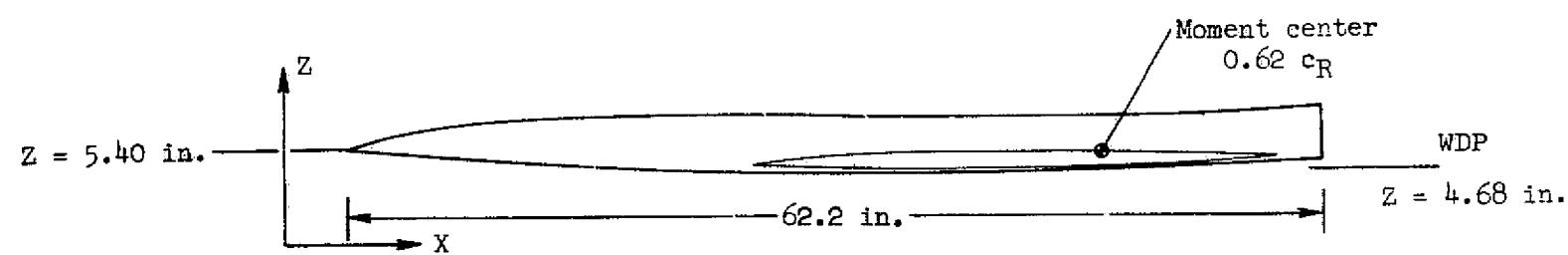
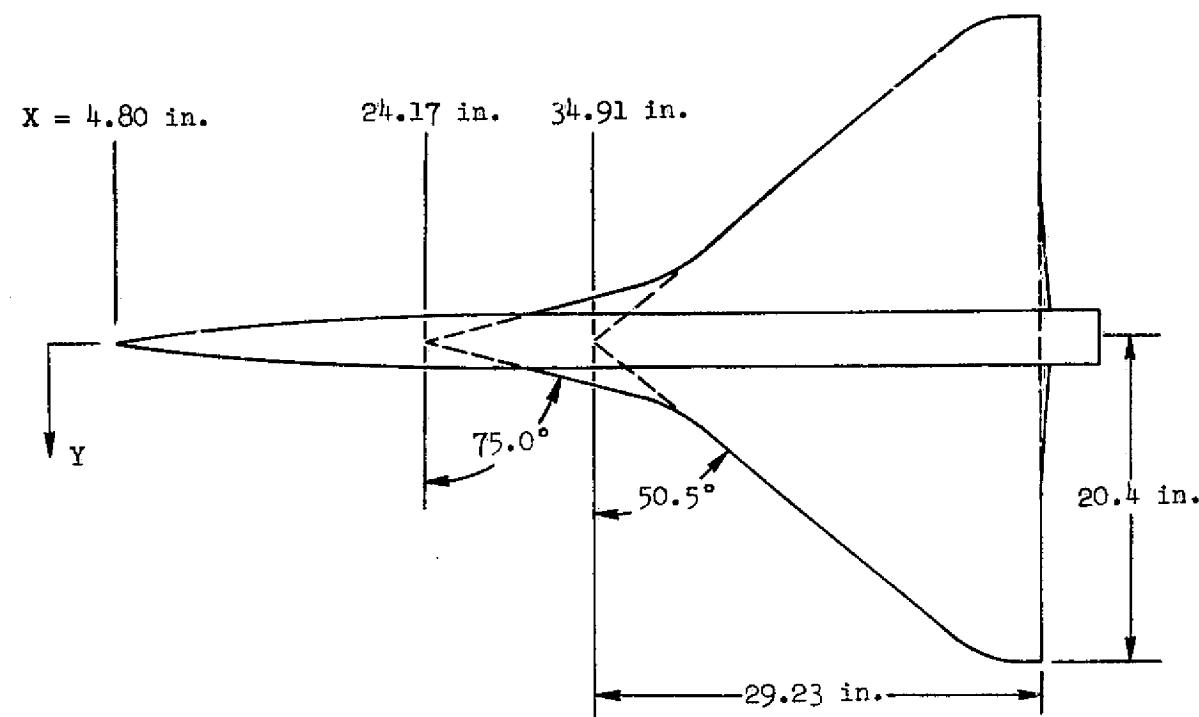
(a) Wing-body-nacelle combination.

Figure 1. - Installation photographs.



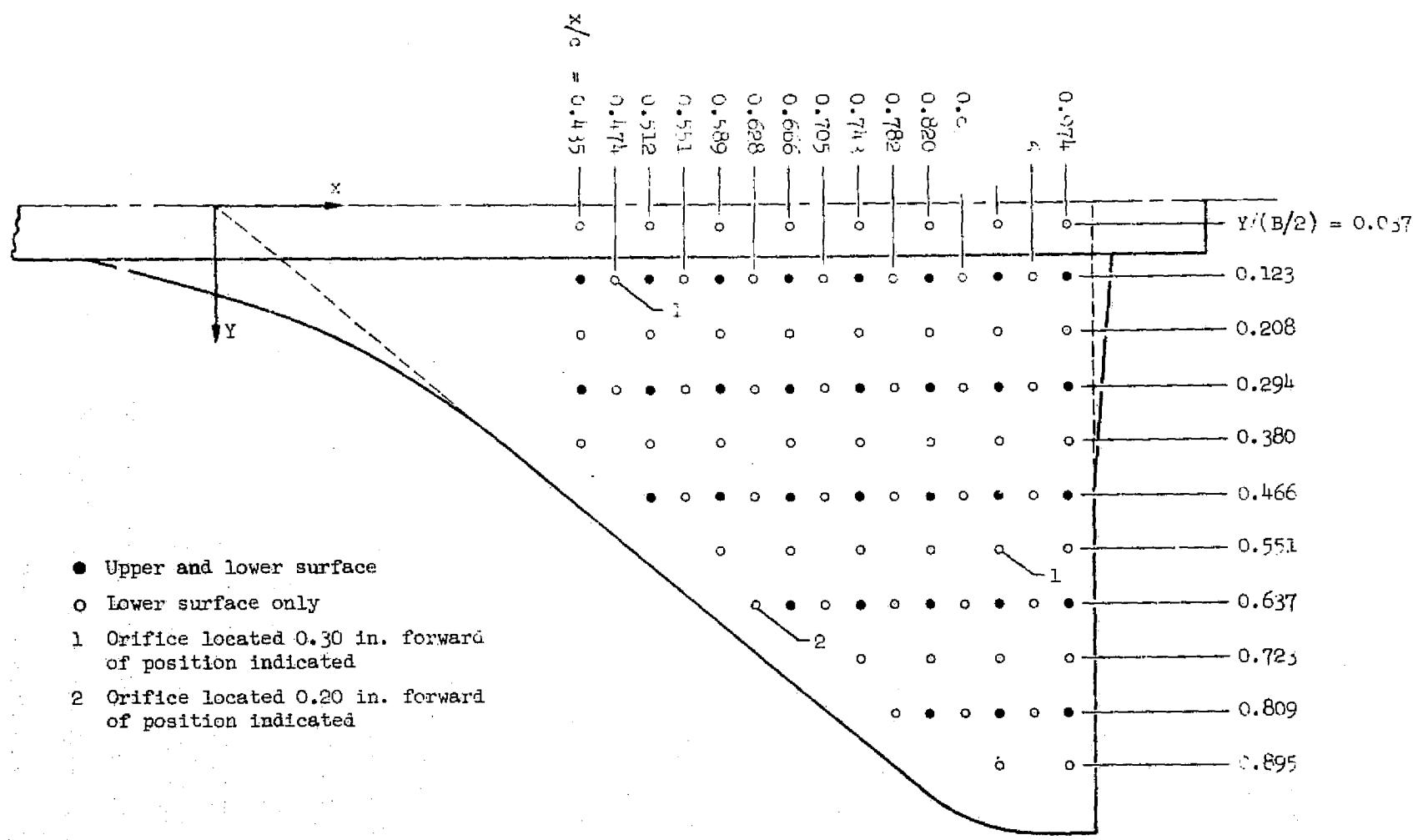
(b) Nacelle support system.

Figure 1. - Concluded.



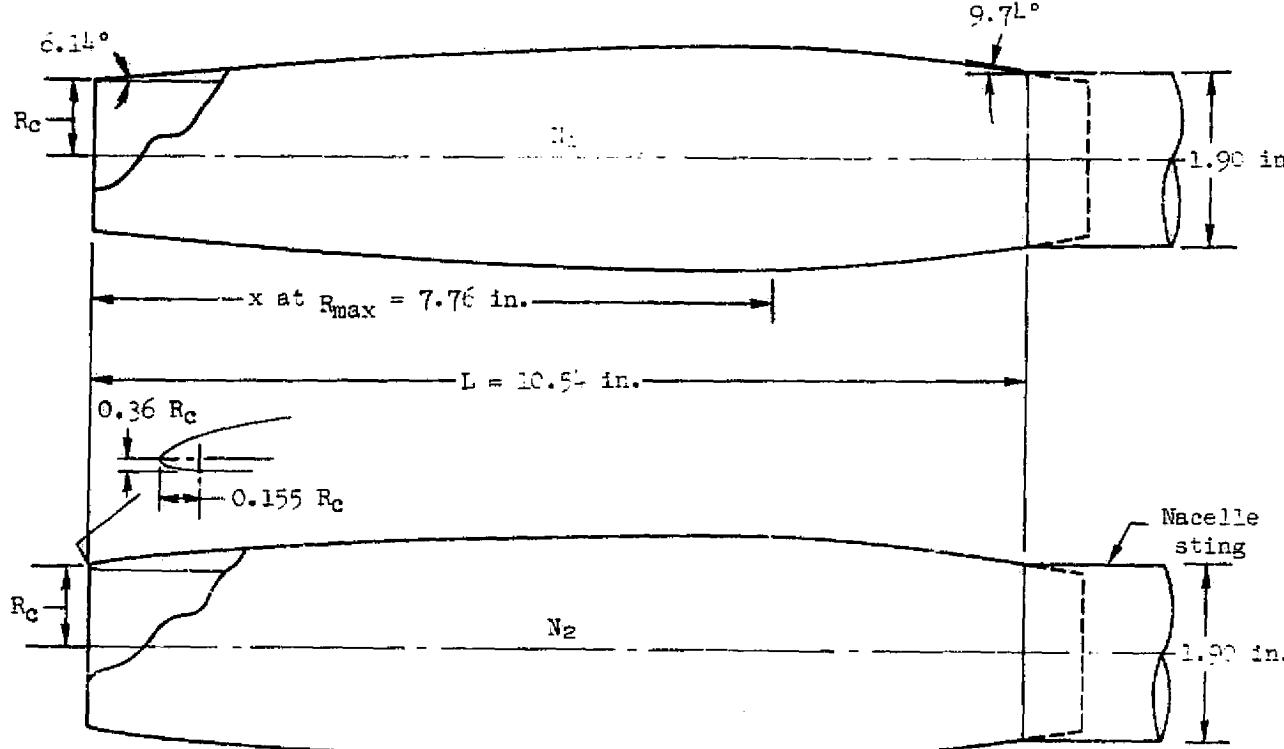
(a) Wing-body combination.

Figure 2. - Wind tunnel model and instrumentation.



(b) Wing pressure instrumentation.

Figure 2. - Continued.

Nacelle, N_1

x/R_c	R/R_c	x/R_c	R/R_c
0.000	1.000	7.326	1.71
0.666	1.069	7.992	1.486
1.332	1.133	8.658	1.492
1.998	1.192	9.026	1.492
2.664	1.246	9.325	1.484
3.331	1.294	9.991	1.441
3.996	1.337	10.656	1.379
4.662	1.375	11.322	1.302
5.328	1.407	11.988	1.213
5.994	1.435	12.654	1.113
6.660	1.458	13.320	1.004

$$R_c = 0.850 \text{ in.}$$

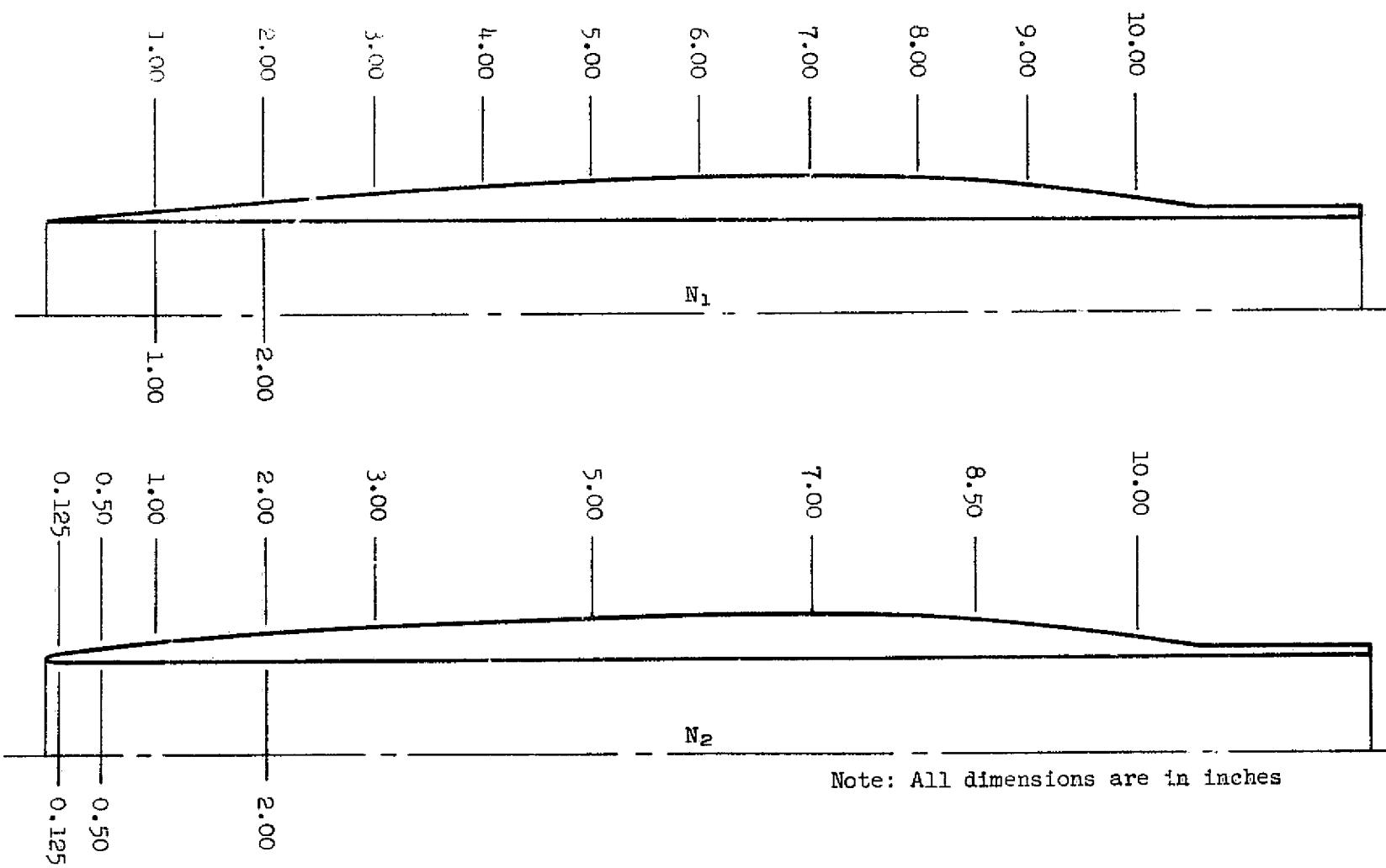
Nacelle, N_2

x/R_c	R/R_c	x/R_c	R/R_c
0.000	1.000	4.349	1.362
0.130	1.056	5.654	1.401
0.384	1.094	6.524	1.417
0.609	1.129	7.393	1.431
1.002	1.167	8.698	1.438
1.218	1.192	8.986	1.430
1.478	1.212	9.628	1.389
1.739	1.230	10.270	1.329
2.262	1.264	10.912	1.255
2.783	1.294	11.553	1.169
3.192	1.320	12.195	1.073
4.001	1.349	12.837	0.967

$$R_c = 0.825 \text{ in.}$$

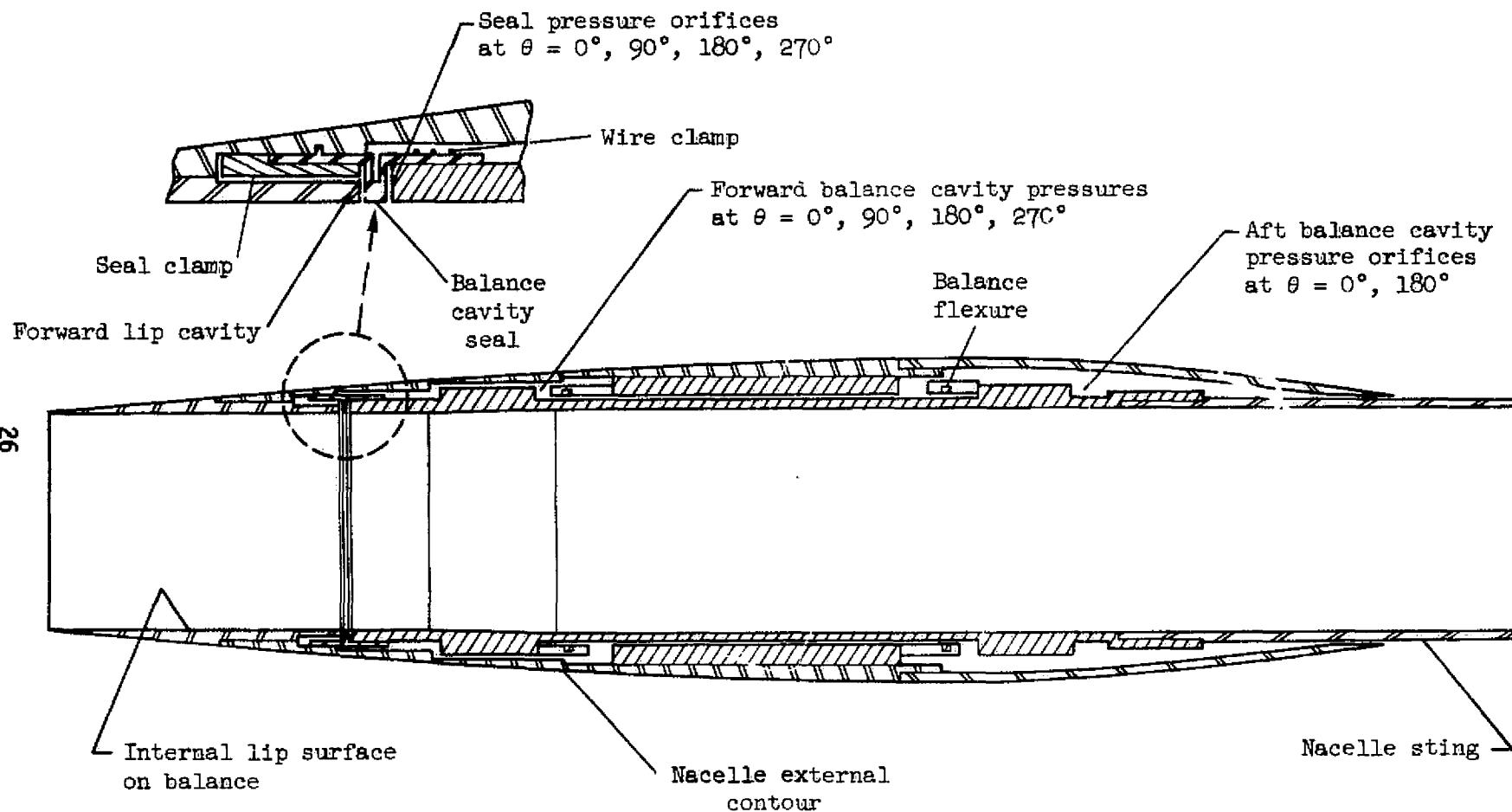
(c) Nacelle geometries.

Figure 2. - Continued.



(d) Nacelle pressure instrumentation.

Figure 2. - Continued.



(e) Nacelle flow through balance.

Figure 2. - Concluded.

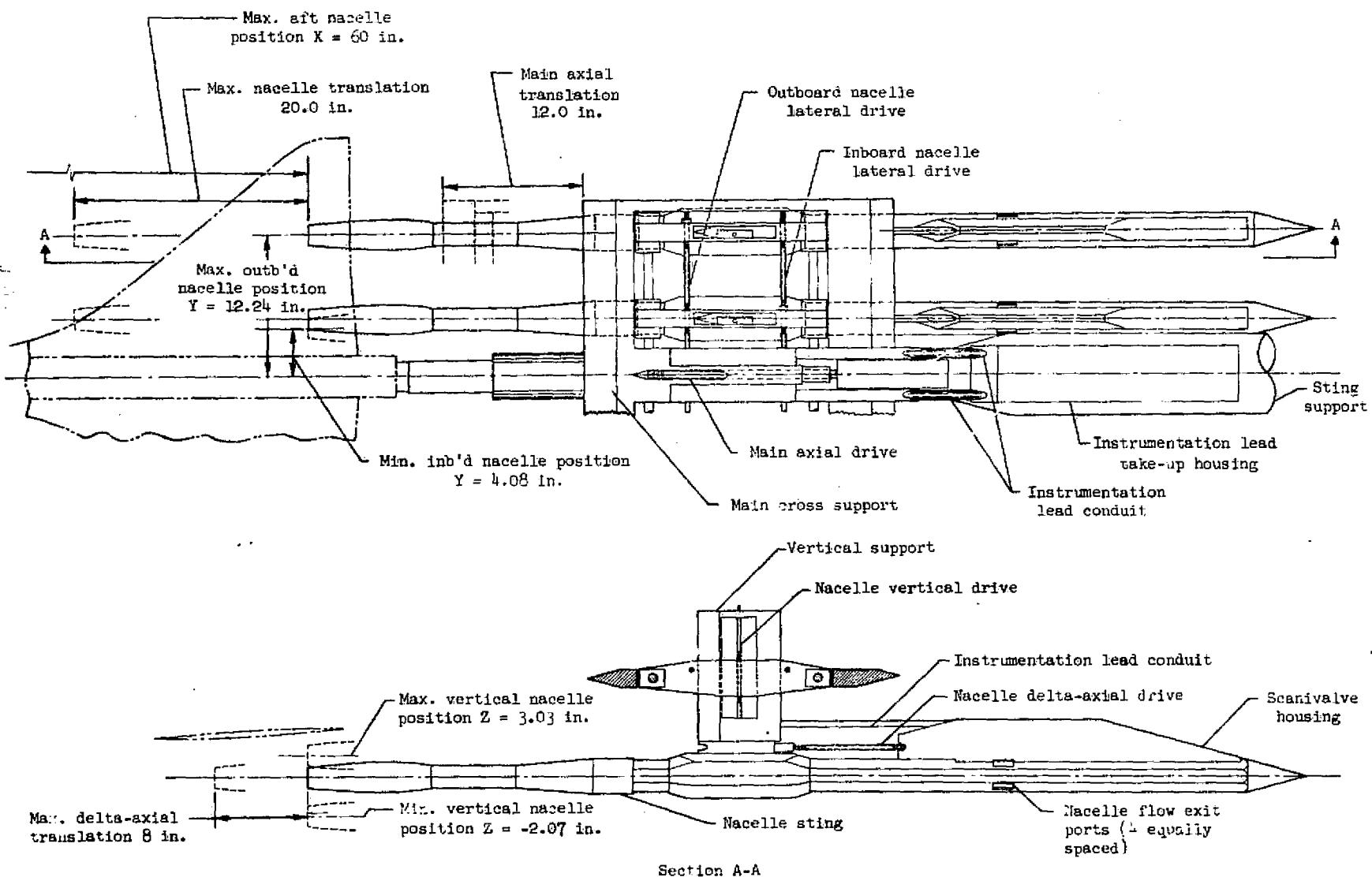


Figure 3. - Nacelle support system.

DATA FIGURES

N1

(ZAP001)

SYMBOL	MACH	X-MA	PARAMETRIC VALUES	
○	.905	X-MA	40.000	2Y0/B
□	.981	2Y1/B	.230	.600
◊	1.098			
△	1.149			
▽	1.198			
■	1.401			

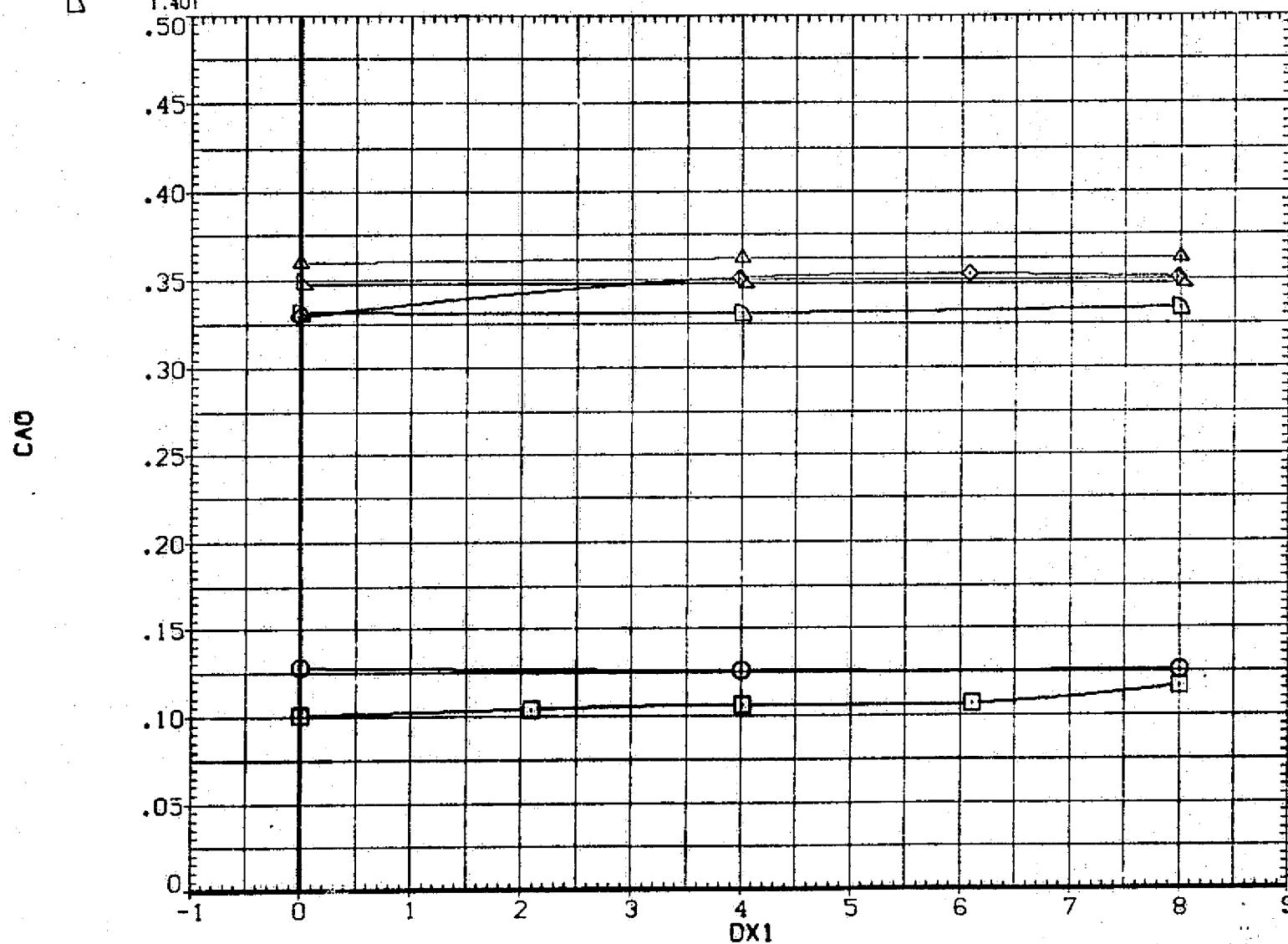


FIG. 4 INTERFERENCE EFFECTS OF AFT NACELLE.

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP002) DATA NOT AVAILABLE
 (RAP006) N2

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

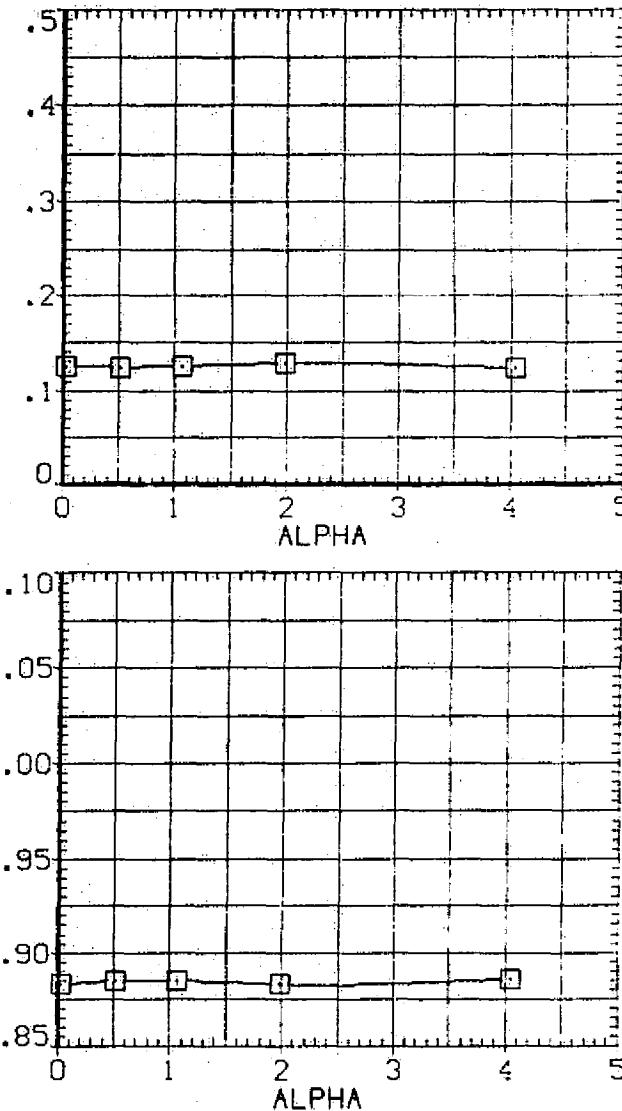
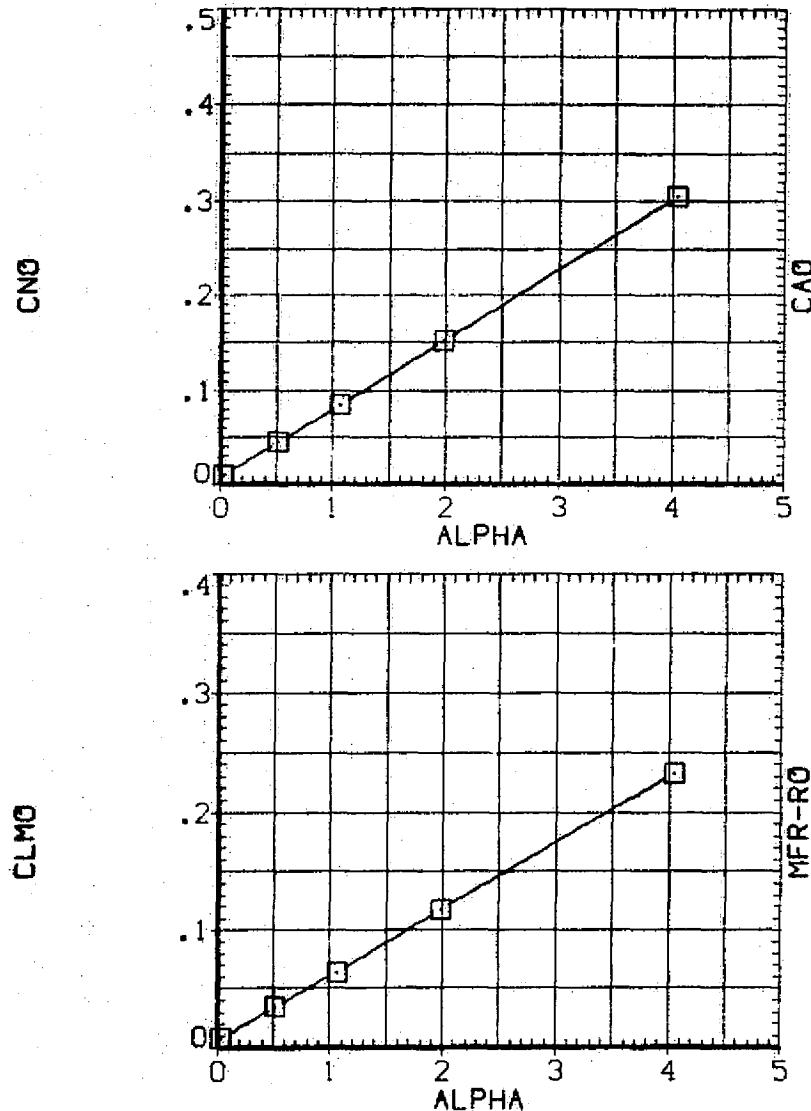


FIG. 5 EFFECTS OF ANGLE OF ATTACK ON ISOLATED NACELLE FORCES.

(A)MACH = .90

PAGE 2

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP002) \square NI
 (RAP006) \square DATA NOT AVAILABLE

DXI 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

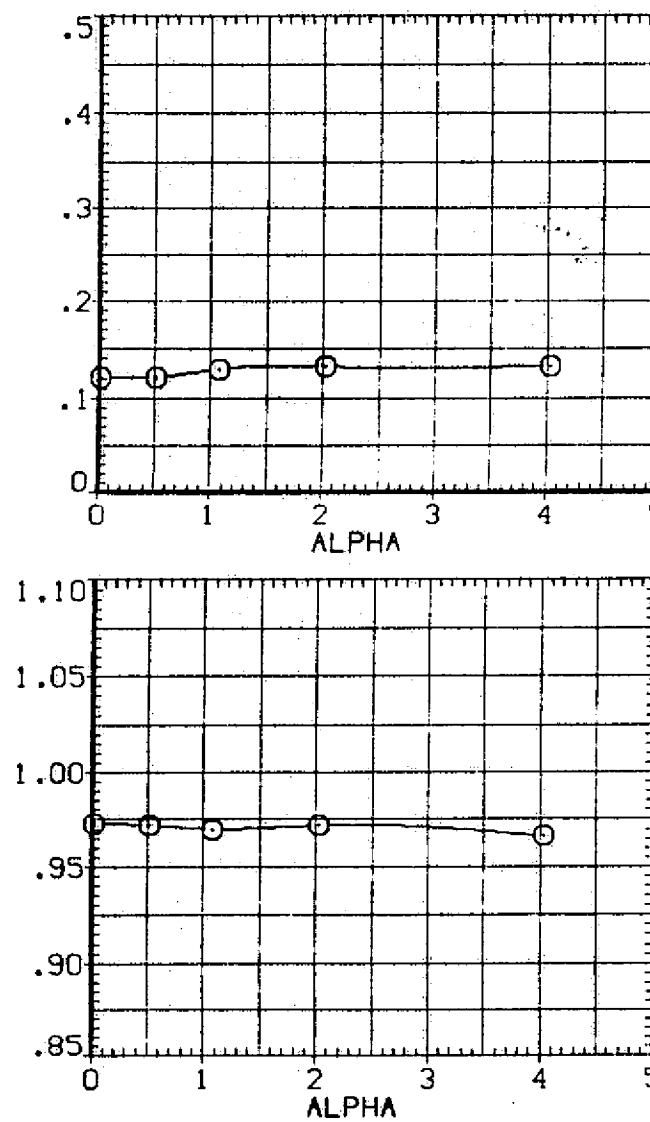
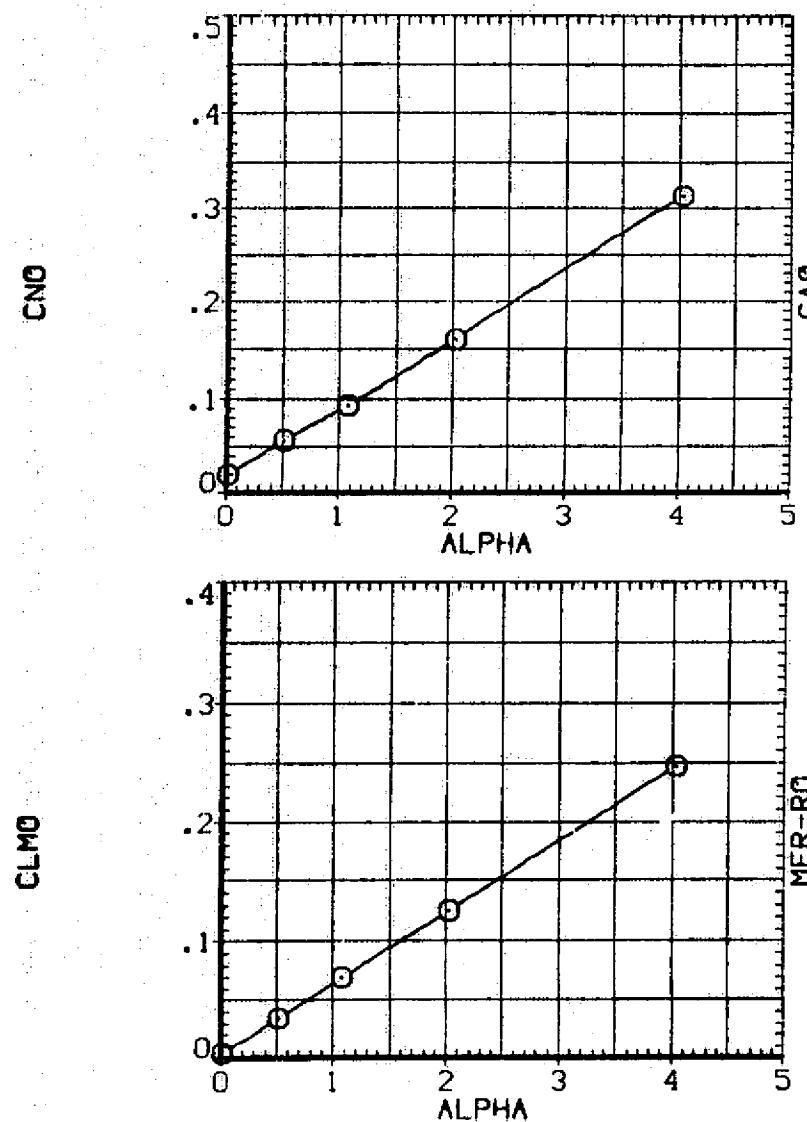


FIG. 5 EFFECTS OF ANGLE OF ATTACK ON ISOLATED NACELLE FORCES.

(B)MACH = .98

PAGE 3

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (RAP006) N2

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 8.000 .230 .600 40.000

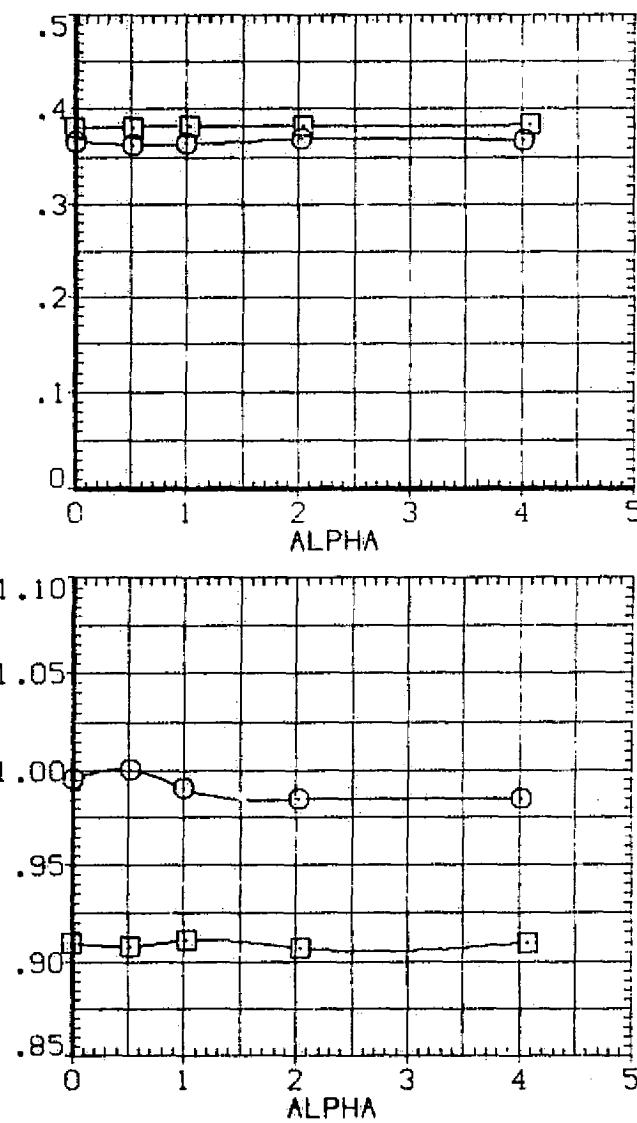
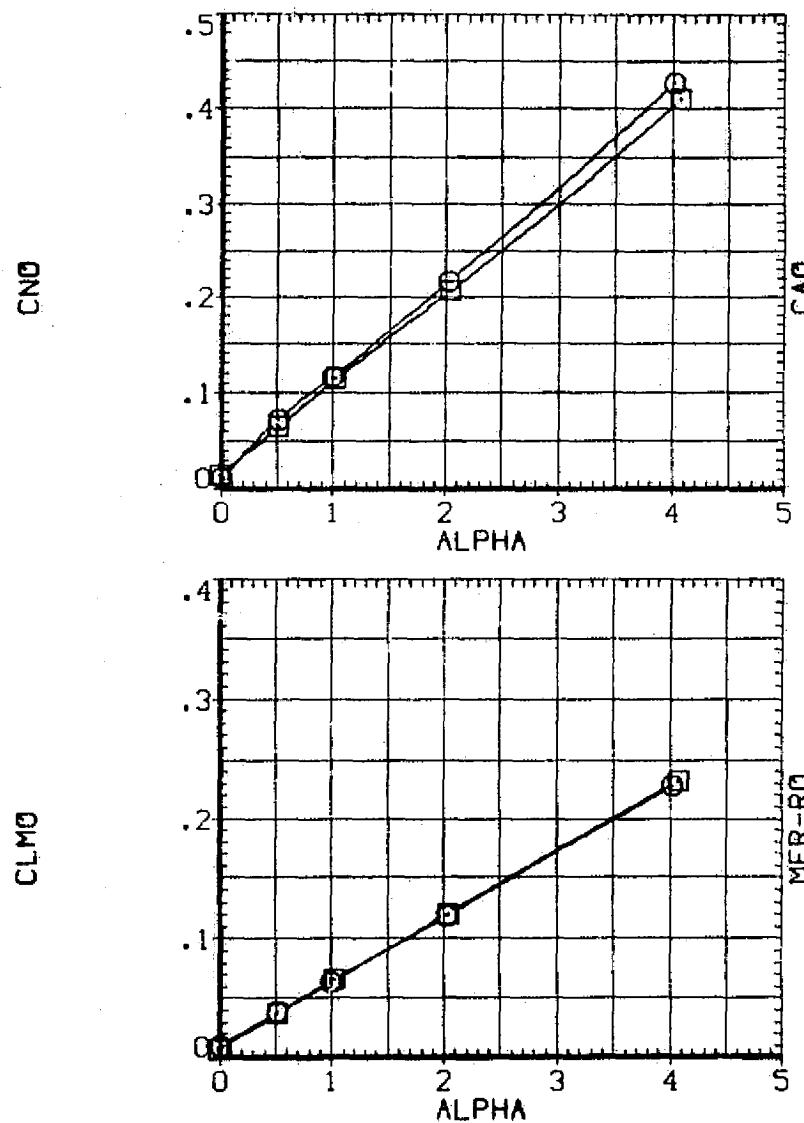


FIG. 5 EFFECTS OF ANGLE OF ATTACK ON ISOLATED NACELLE FORCES.

(C)MACH = 1.15

PAGE 4

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP002) \square N1
 (RAP006) \circ N2

DXI 2Y1/B 2Y0/B X-MA
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 8,000 .230 .600 40,000

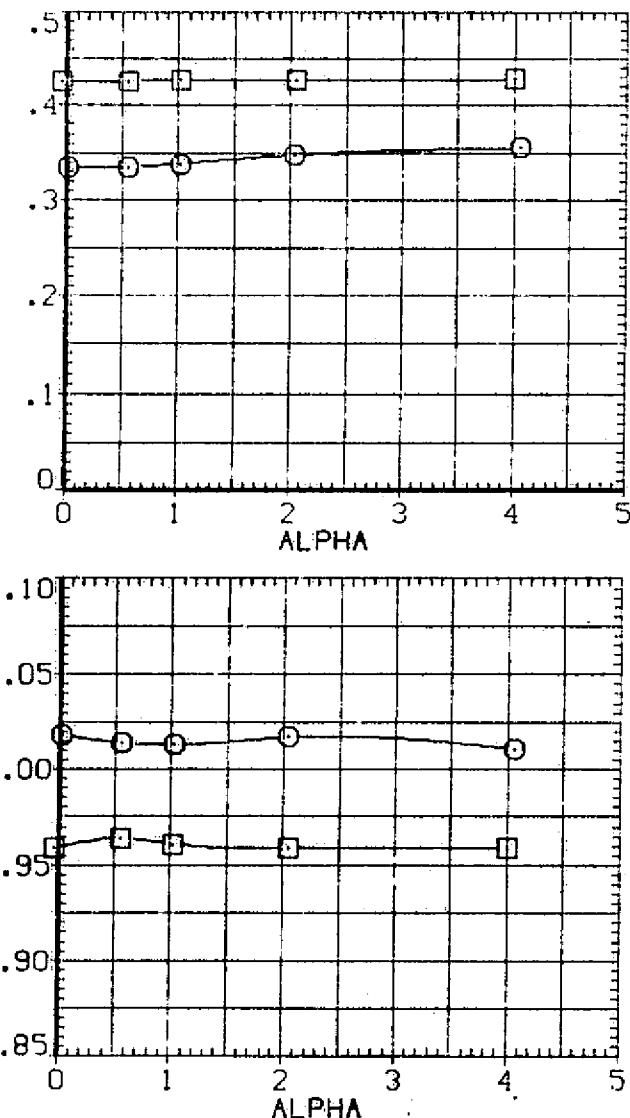
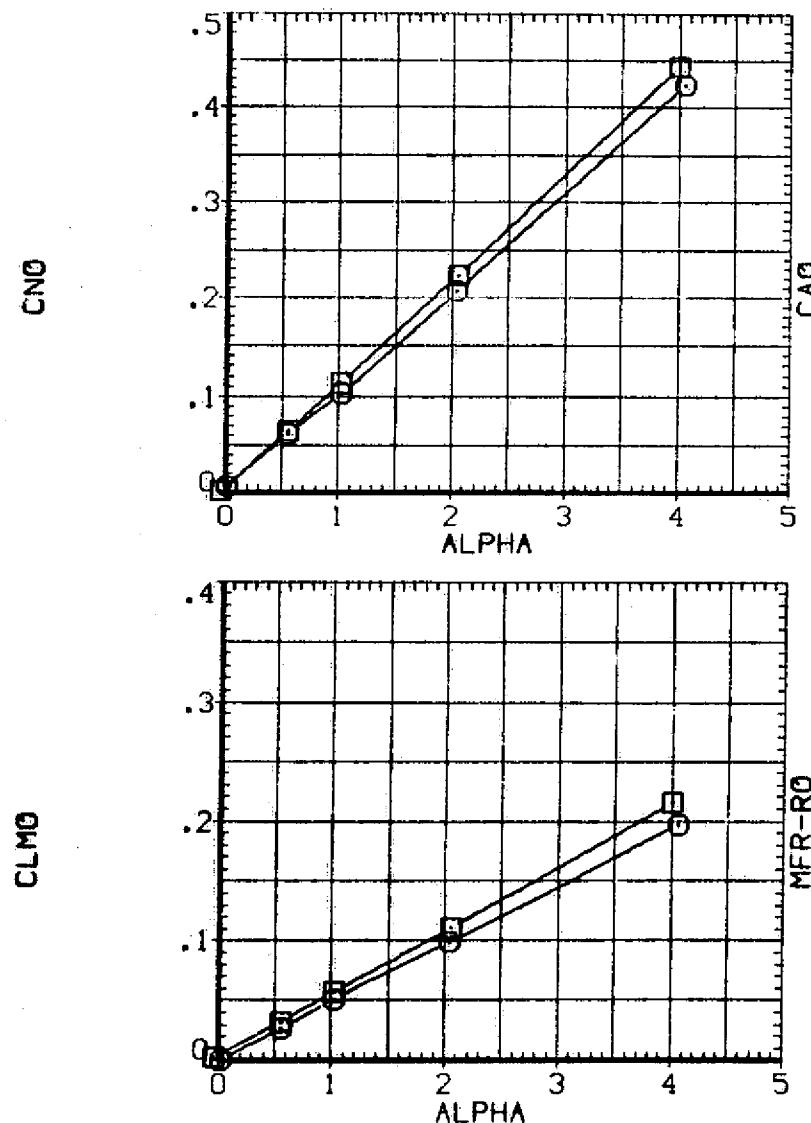


FIG. 5 EFFECTS OF ANGLE OF ATTACK ON ISOLATED NACELLE FORCES.

CDOMACH = 1.40

PAGE 5

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) 8 N1
 (AAP008) 8 N2

DX1 2Y1/B 2Y0/B X-MA
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 8.000 .230 .600 40.000

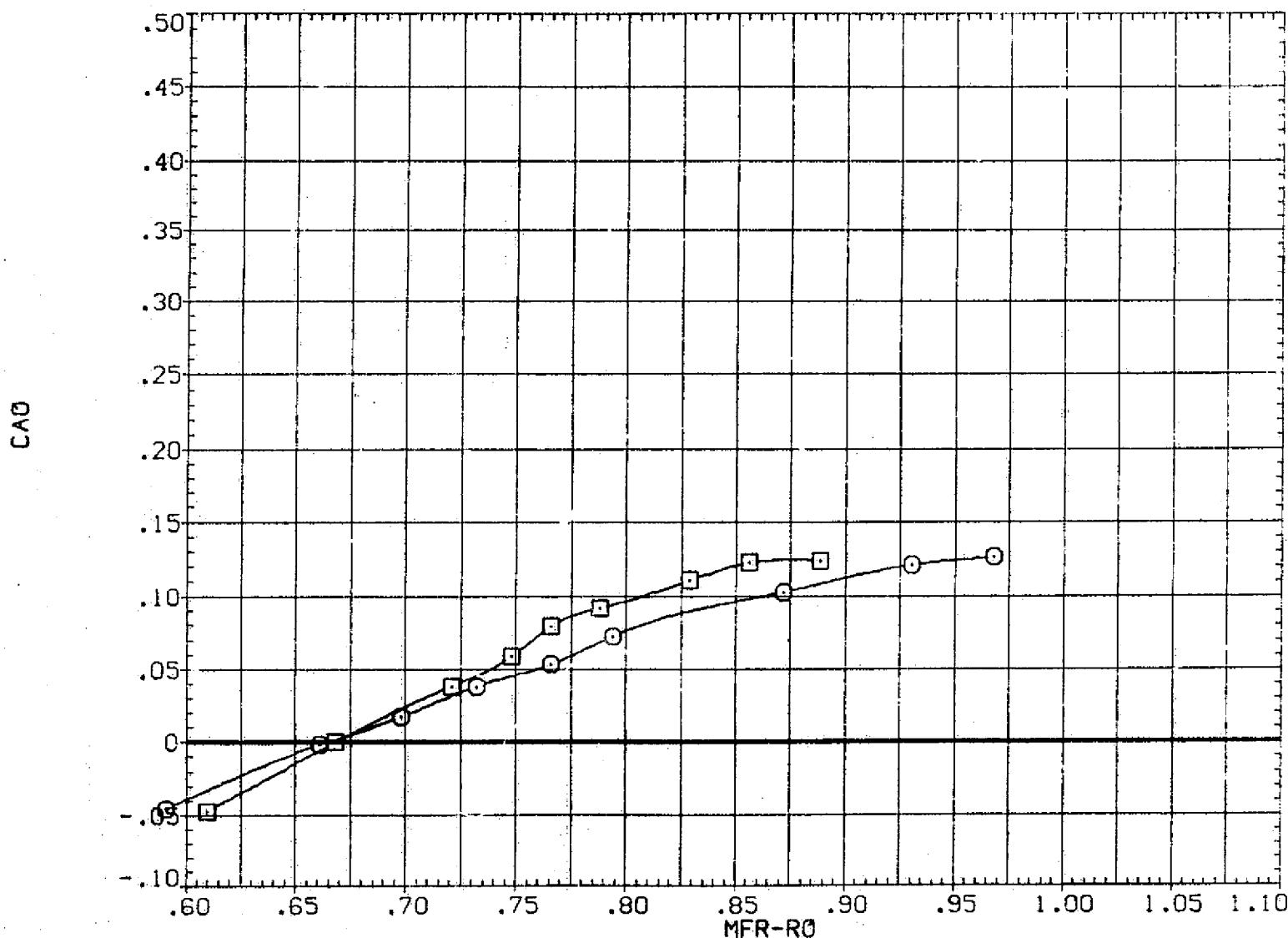


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CA(MACH) = .90

PAGE 6

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) \circ N1
 (AAP008) \square N2

DX: 8,000 2Y1/B .230 .600 40,000
 8,000 .230 .600 40,000

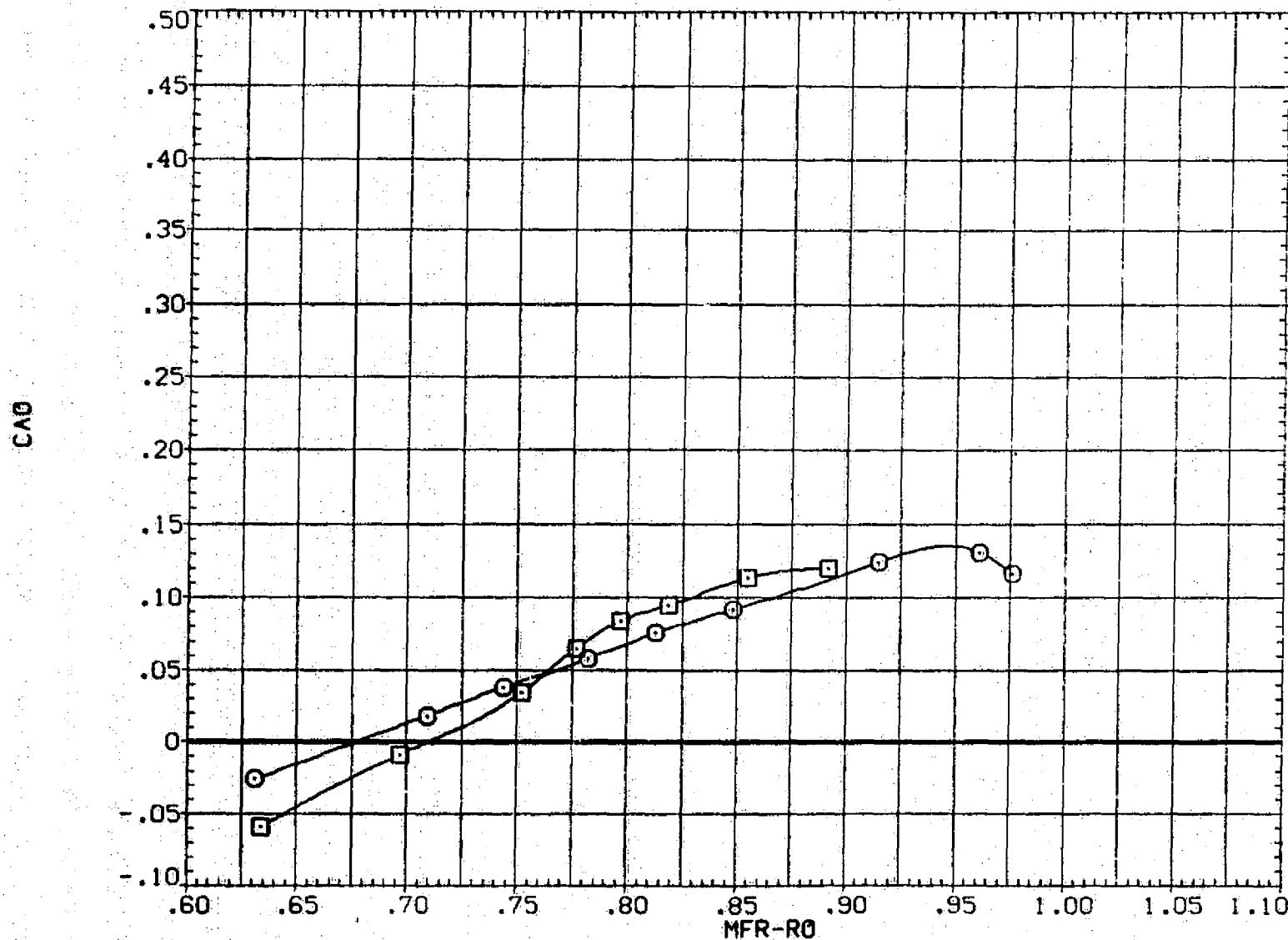


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(B)MACH = .98

PAGE 7

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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[AAP008] DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/B X-MA
8.000 .230 .600 40.000
8.000 .230 .600 40.000

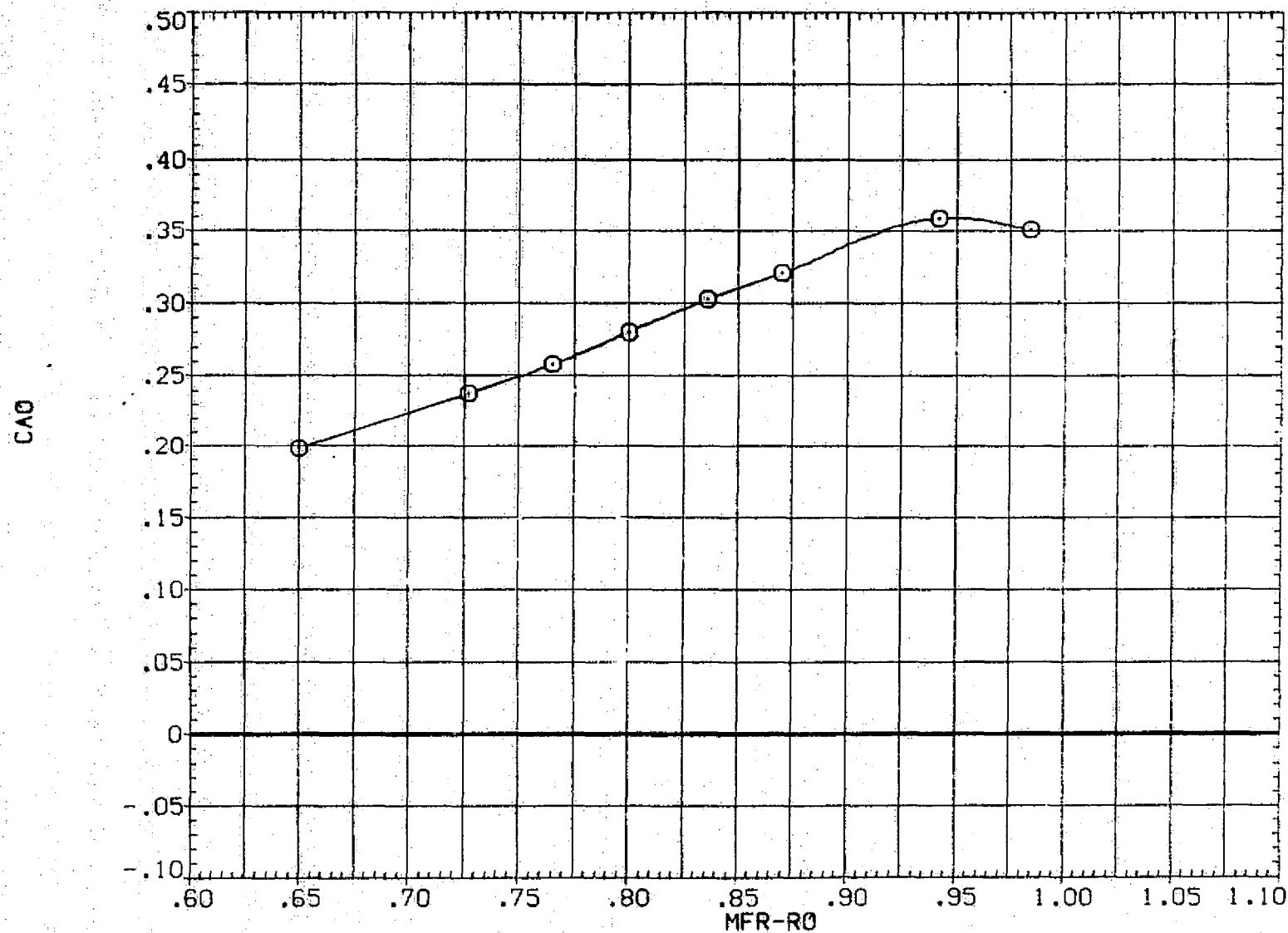


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CCMACH = 1.10

PAGE 8

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (AAP008) N2

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 8,000 .230 .600 40,000

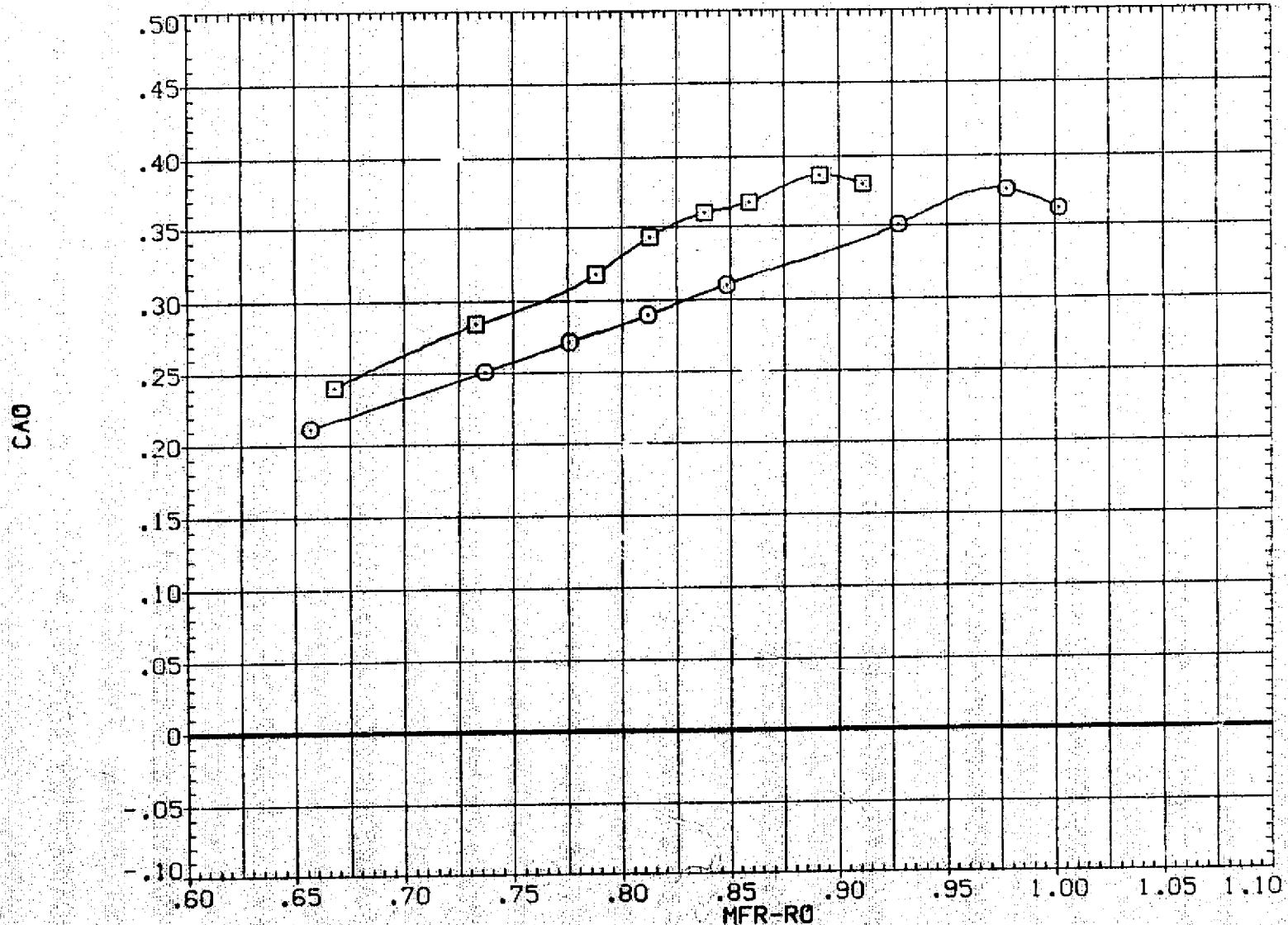


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(D)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) \circ N1
 (AAP008) \square DATA NOT AVAILABLE

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(AAP004)	8.000	.230	.600	40.000
(AAP008)	8.000	.230	.600	40.000

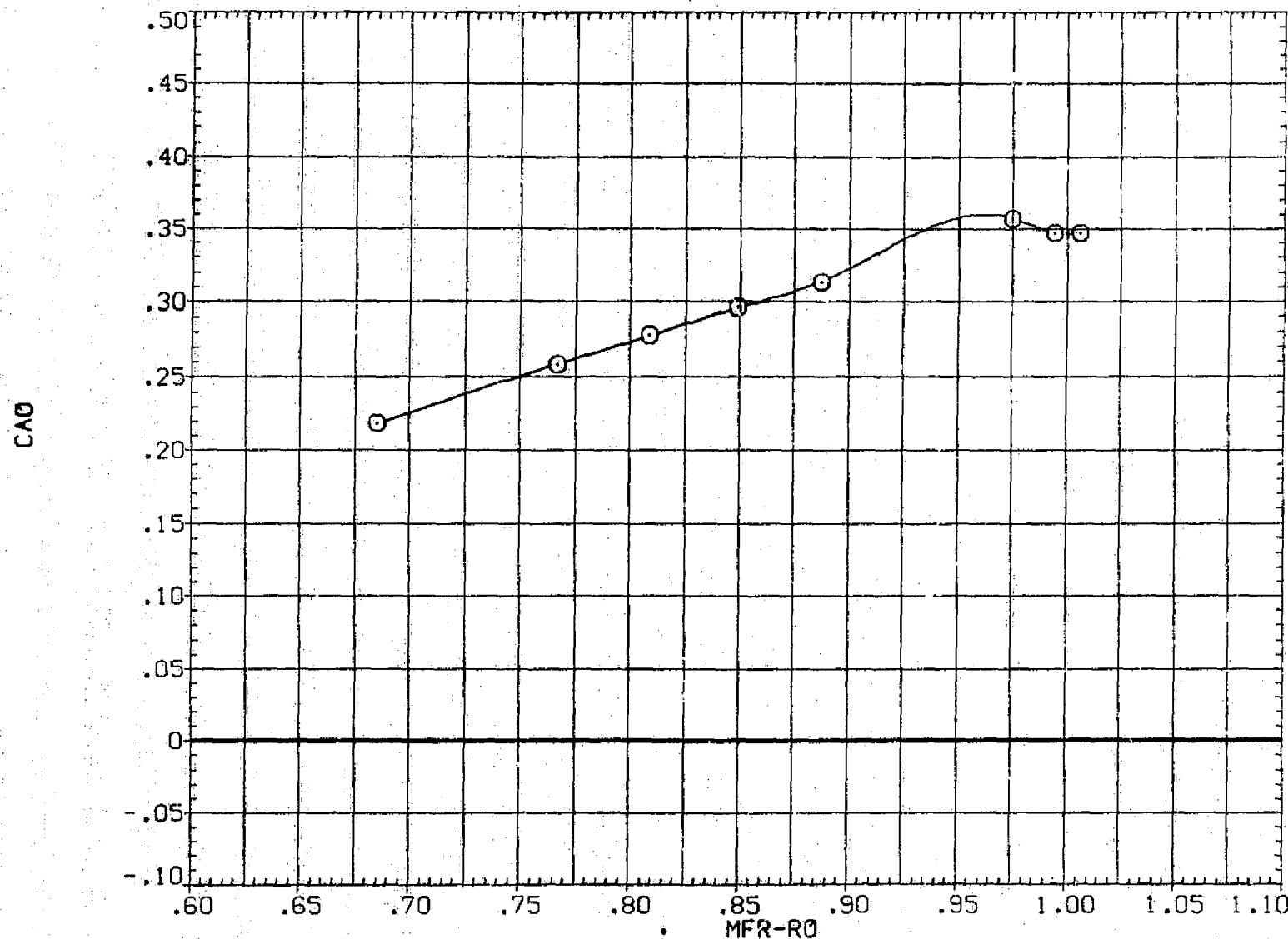


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(E)MACH = 1.20

PAGE 10

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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(AMP008) D DATA NOT AVAILABLE

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8.000	.230	.600	40,000

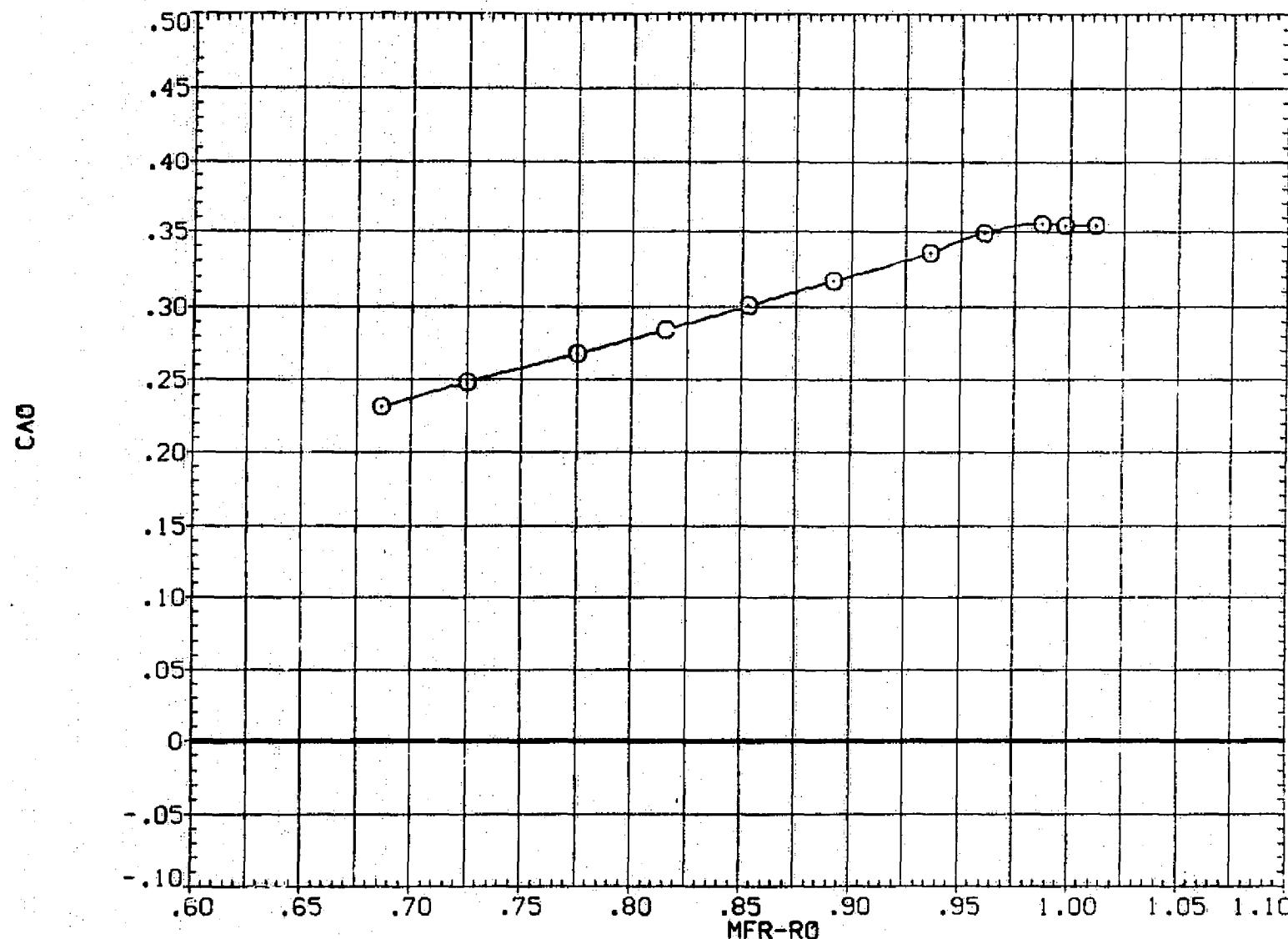


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(F)MACH = 1.30

PAGE 11

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (AAP008) N2

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 8.000 .230 .600 40.000

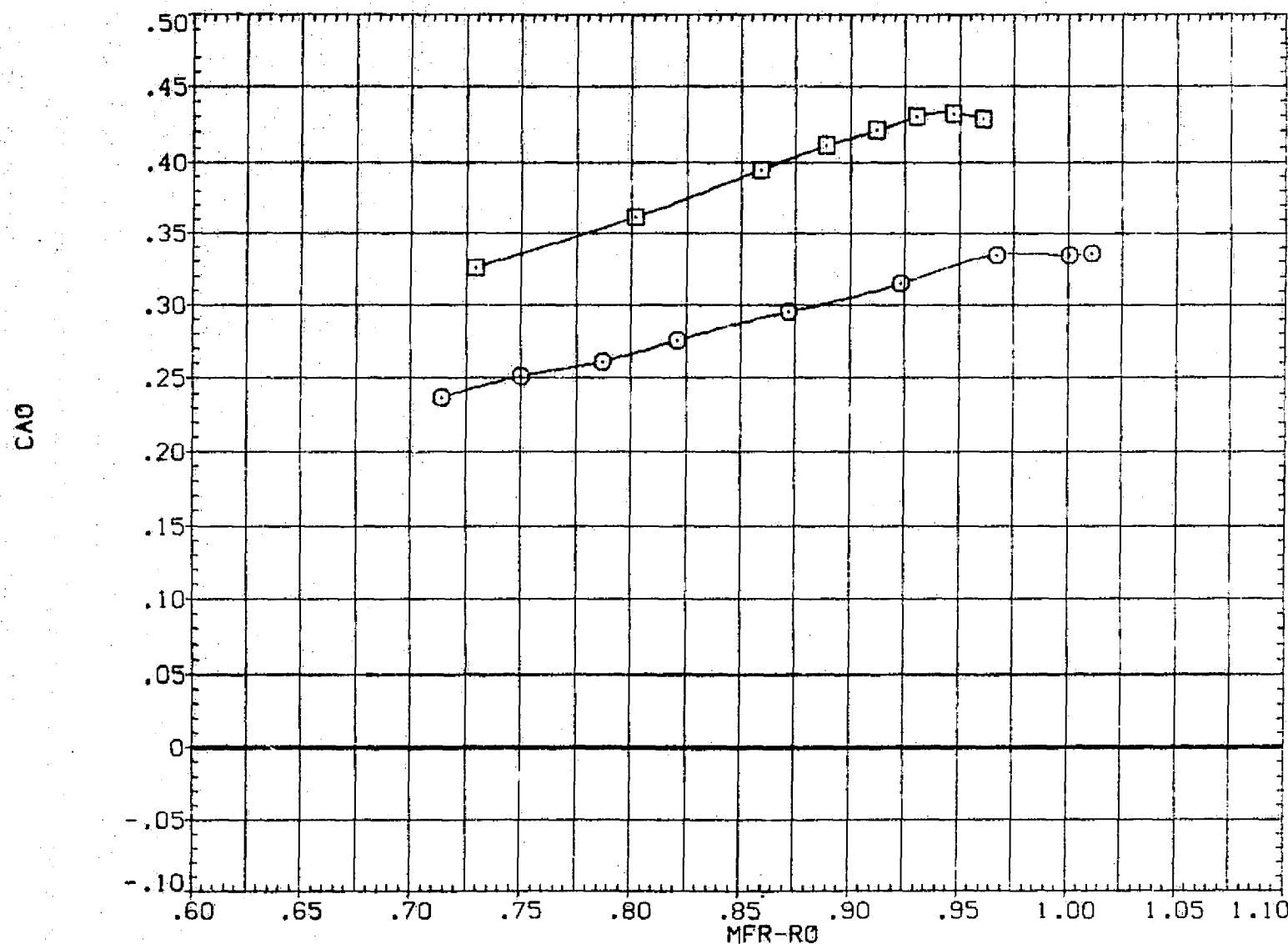


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(G)MACH = 1.40

PAGE 12

DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (AAP008) \square N2

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 8,000 :230 .600 40,000

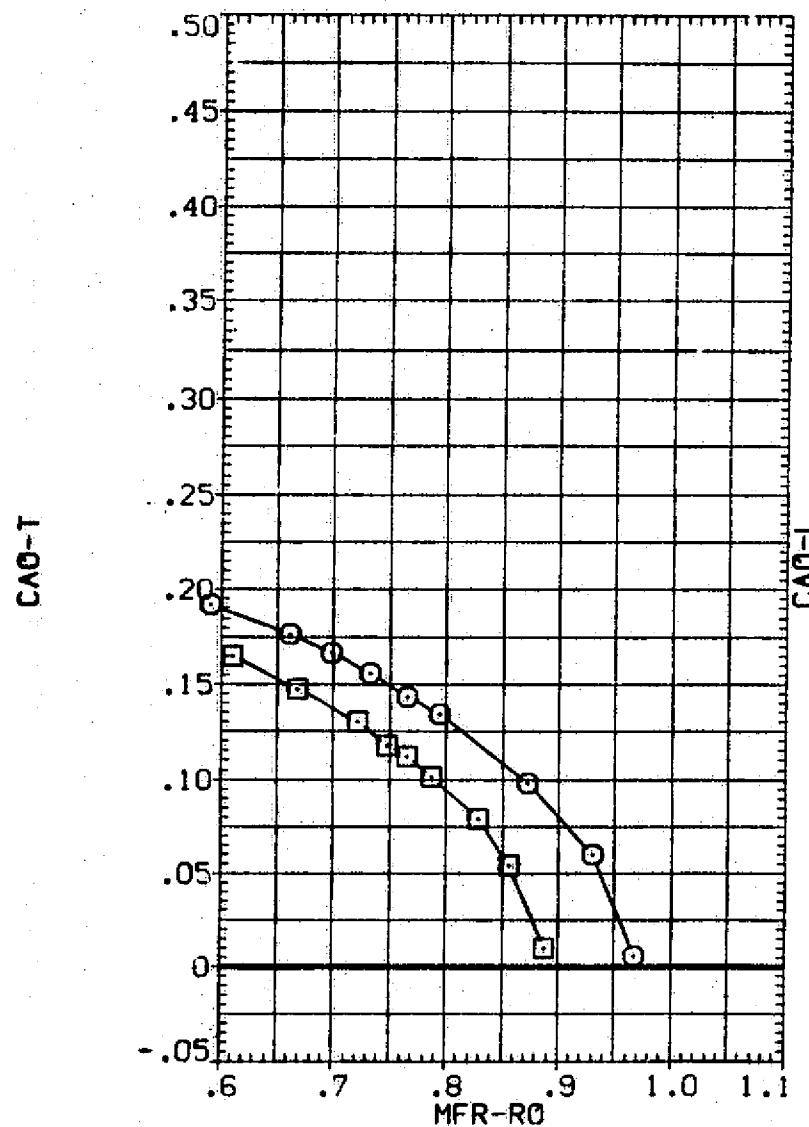
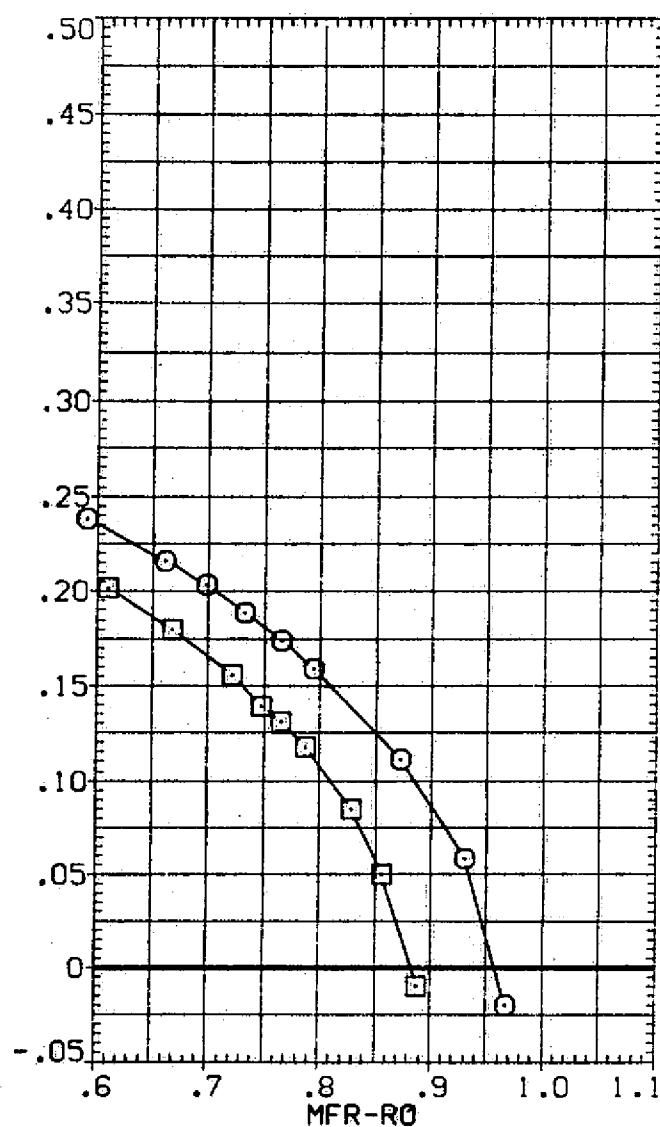


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CA0MACH = .90



DATA SET SYMBOL CONFIGURATION DESCRIPTION
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 (AAP008) N2

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 8.000 .230 .600 40.000

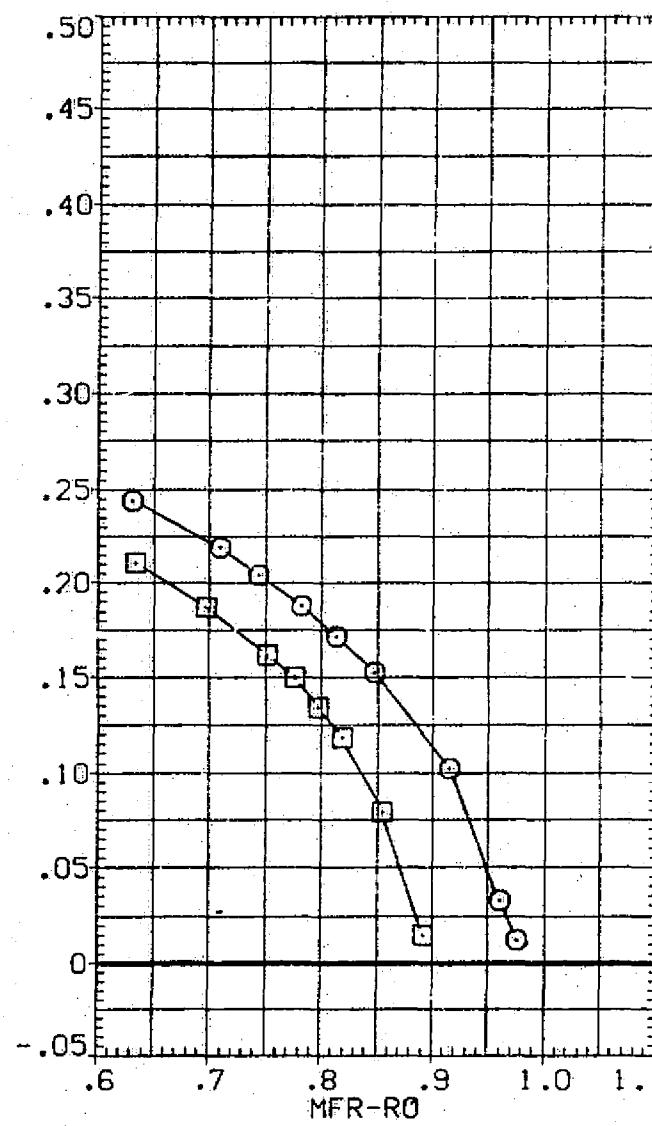
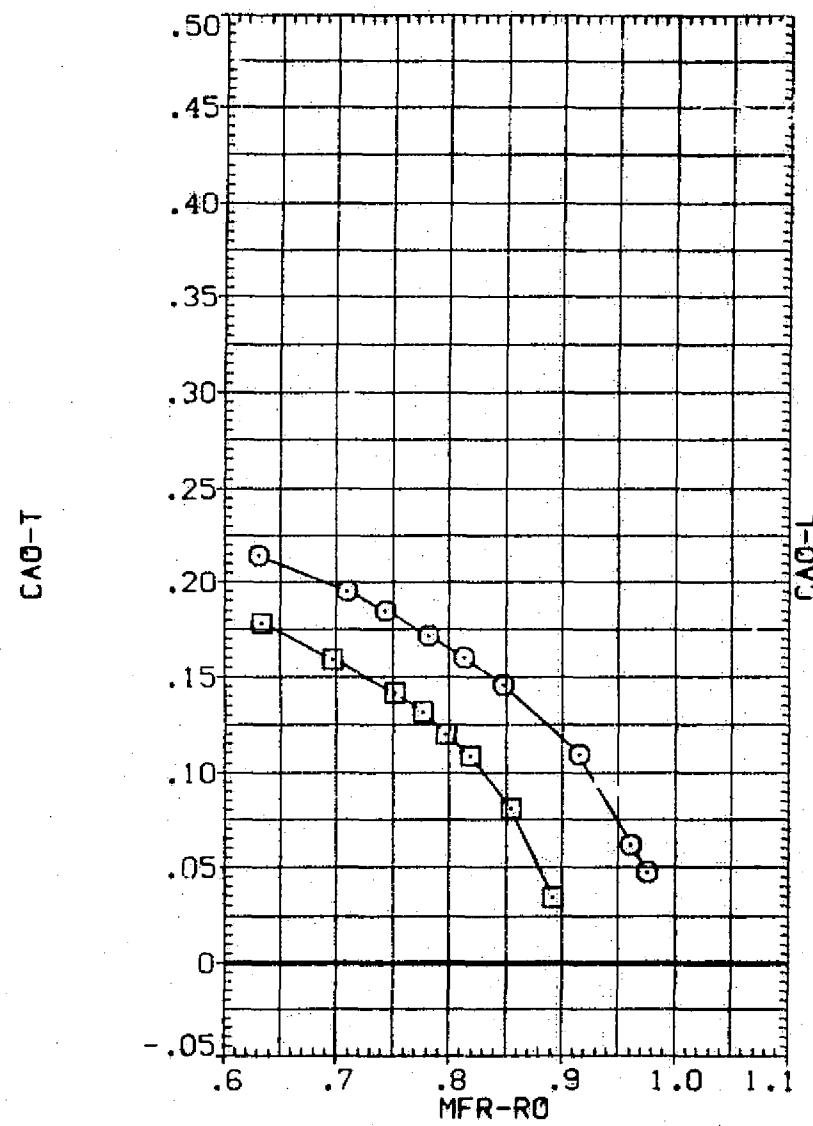


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CBMACH = .98

PAGE 14

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) NI
 (AAP008) DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

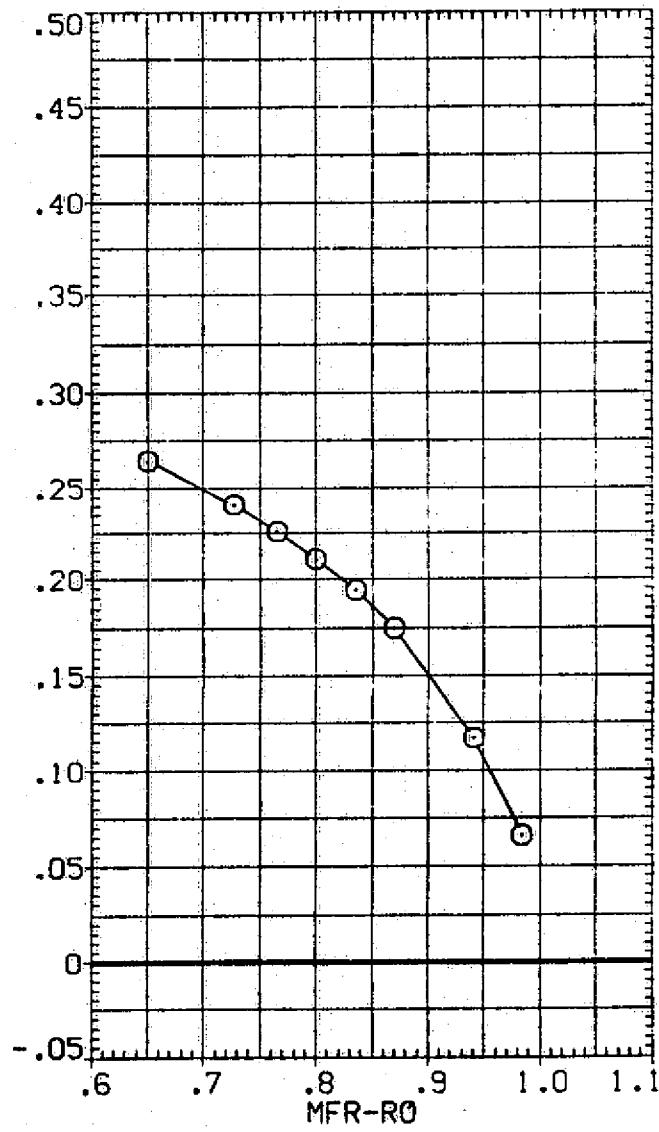
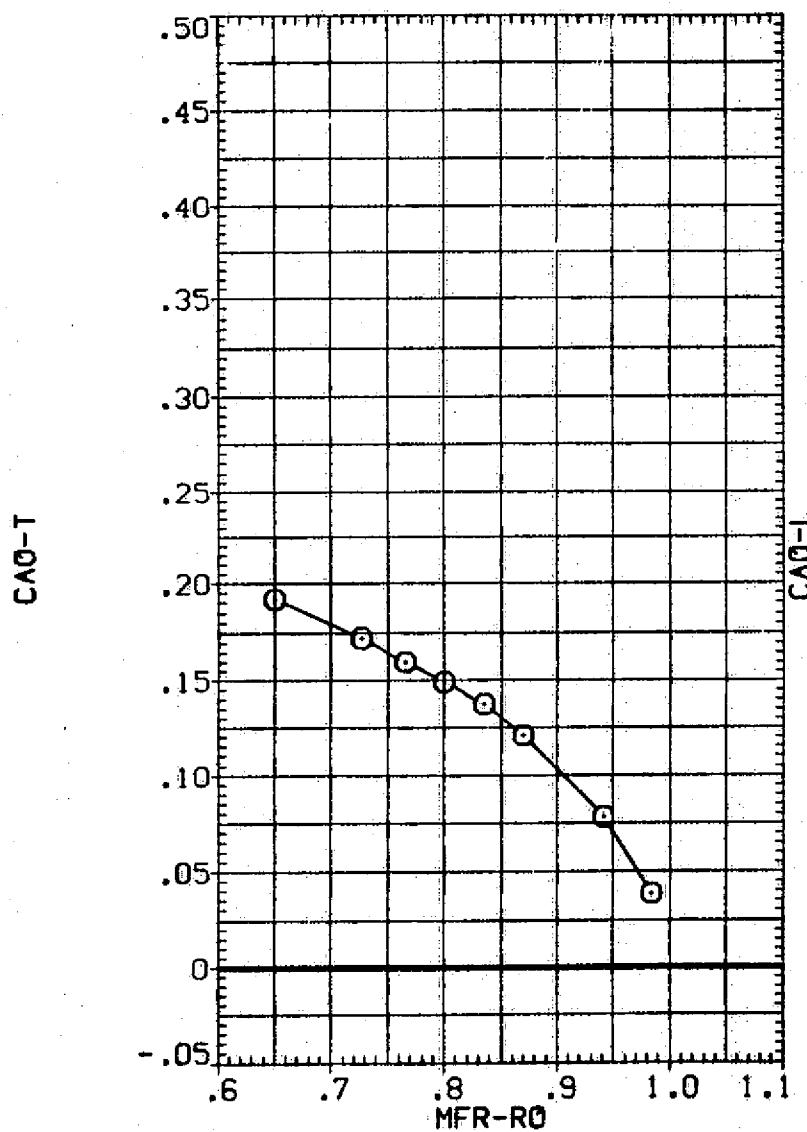


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(C)MACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) \circ N1
 (AAP008) \square N2

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

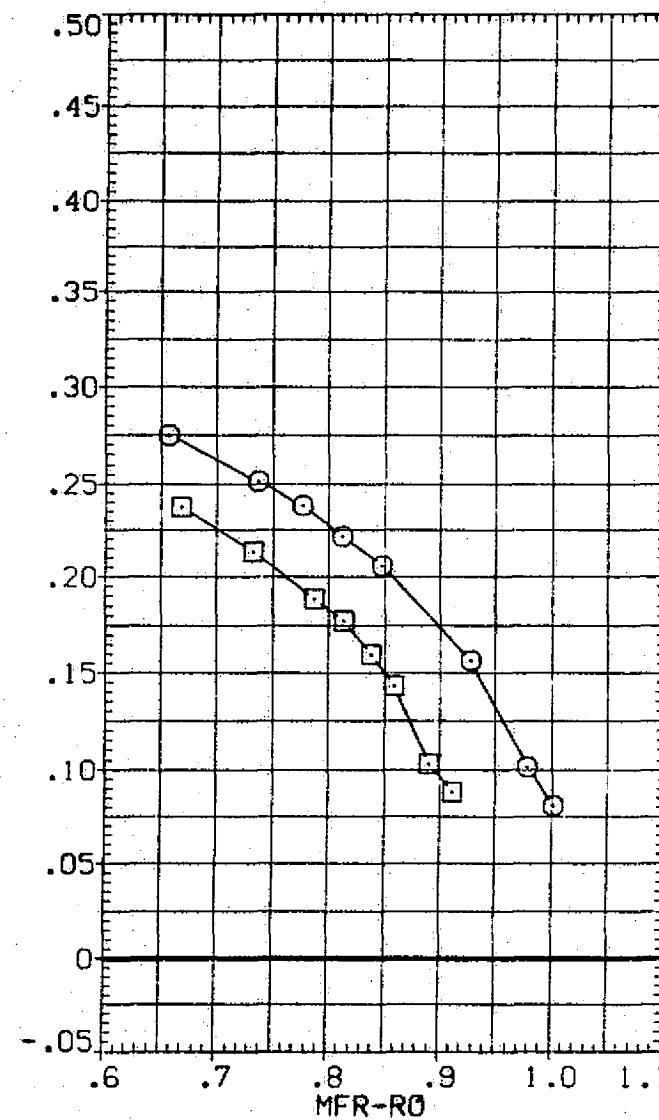
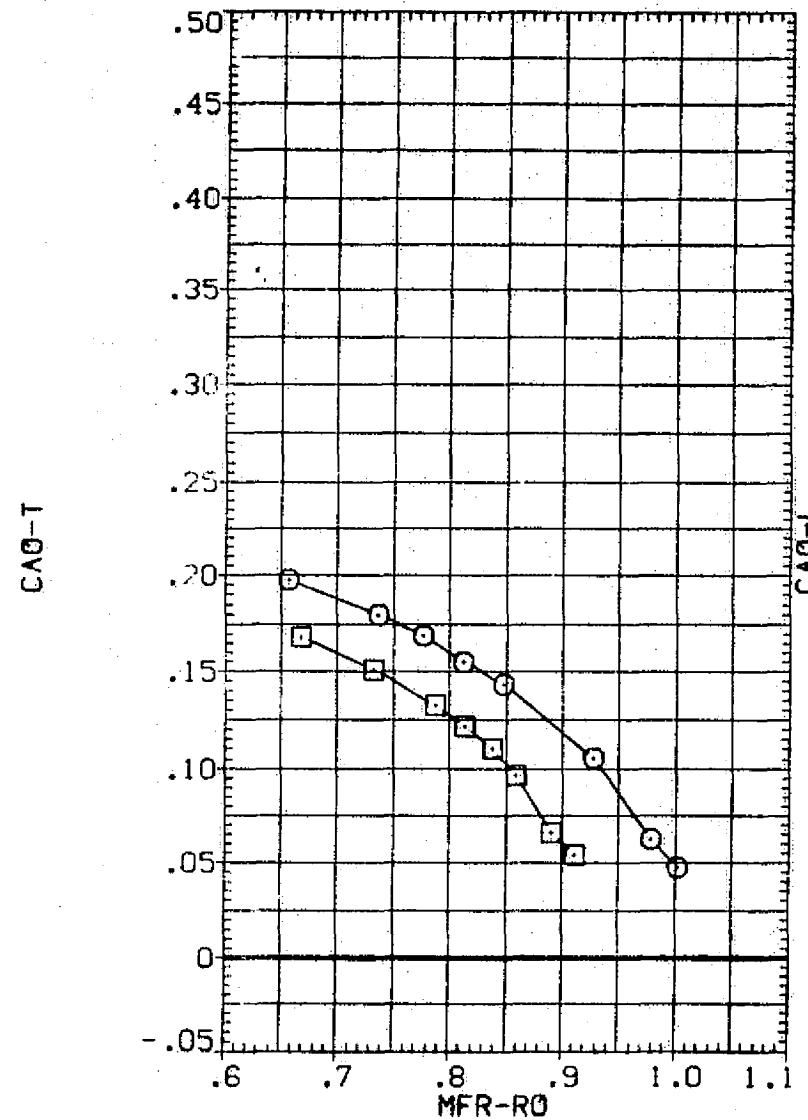


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CDMACH = 1.15

PAGE 16

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) O N1
 (AAP006) □ DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

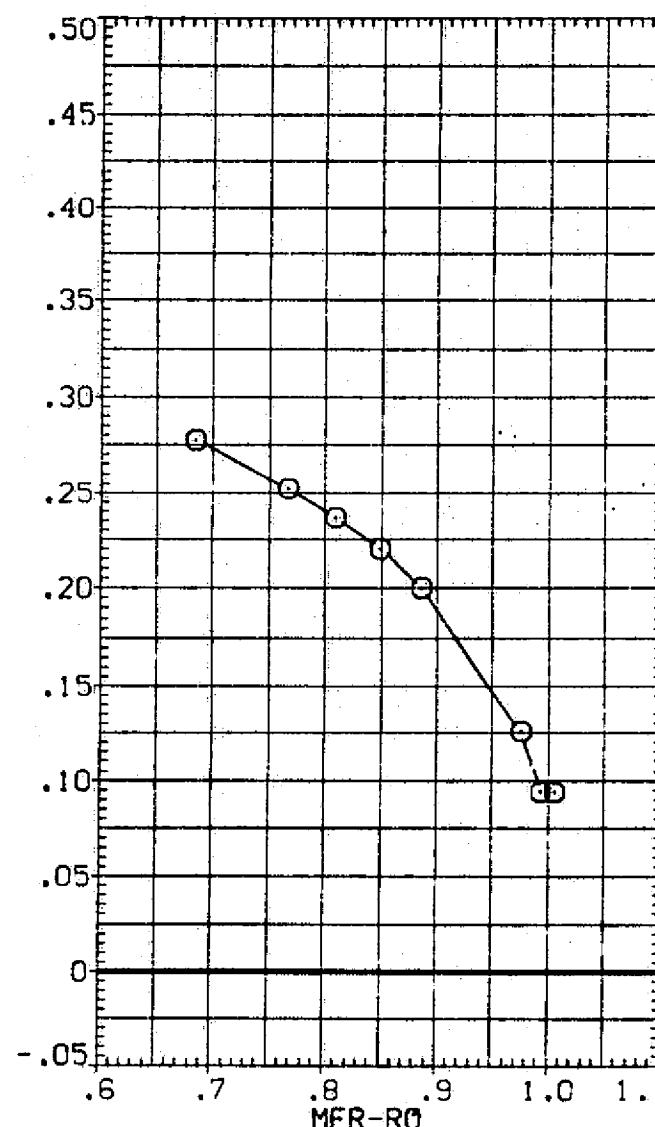
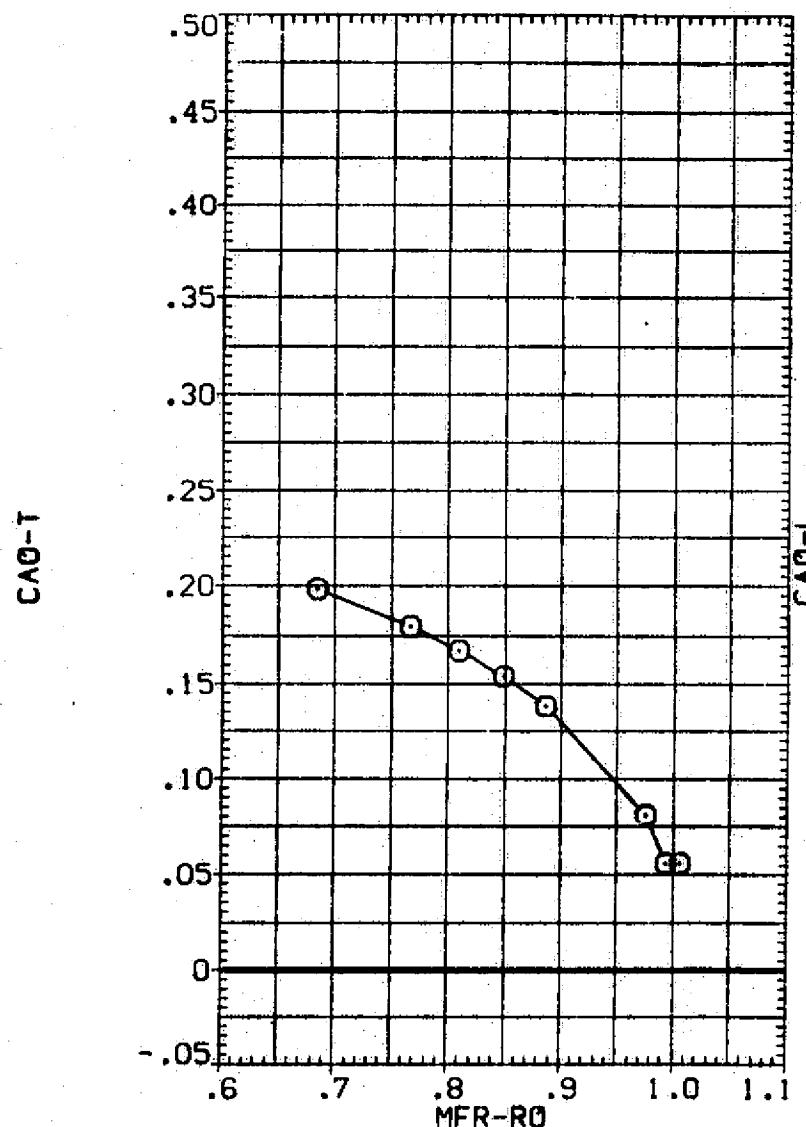


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(E)MACH = 1.20

PAGE 17

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) NI
 (AAP008) DATA NOT AVAILABLE

DXI 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

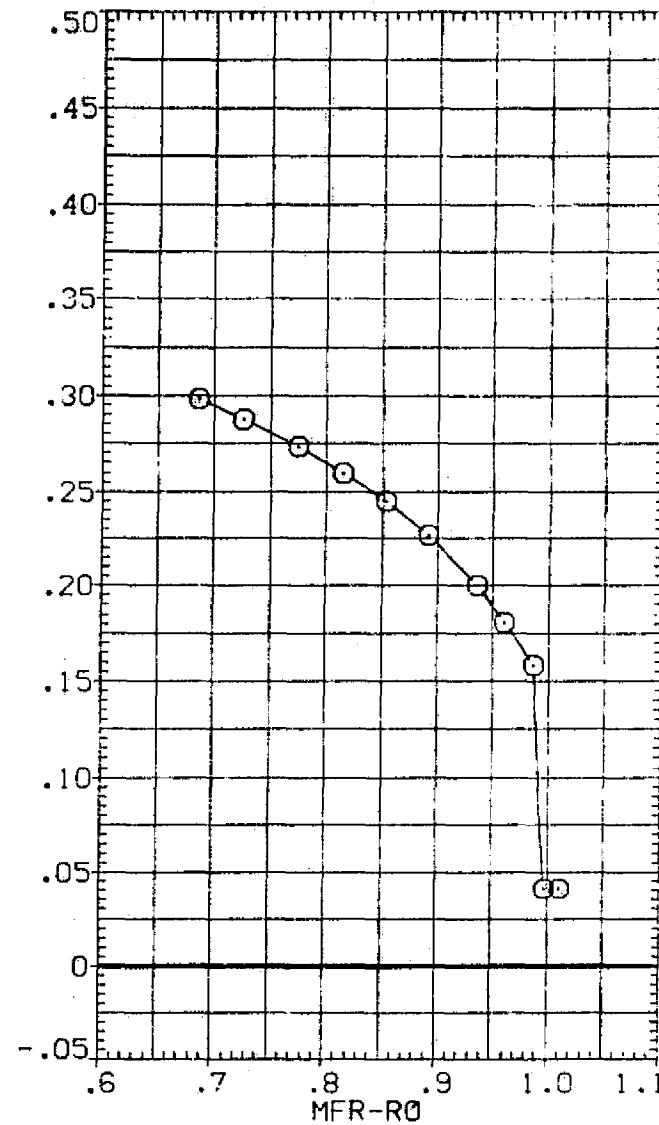
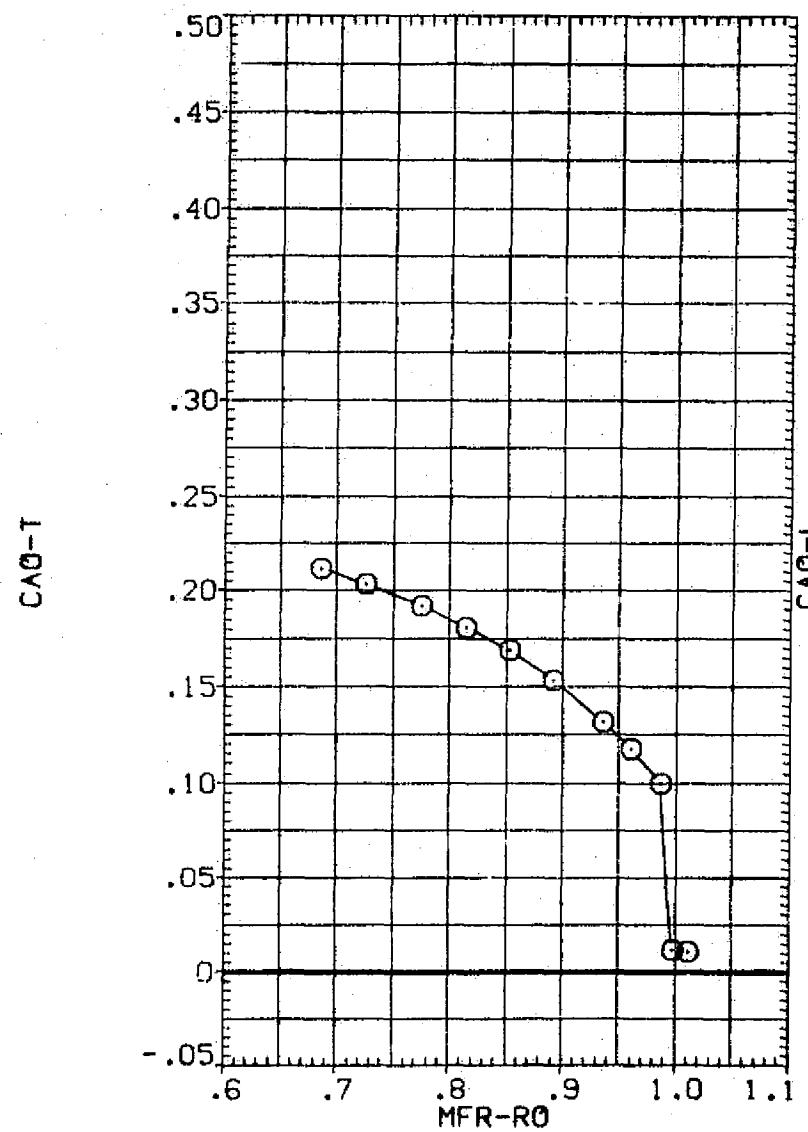


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CEOMACH = 1.30

PAGE 18

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) \circ N1
 (AAP008) \square N2

DXI 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

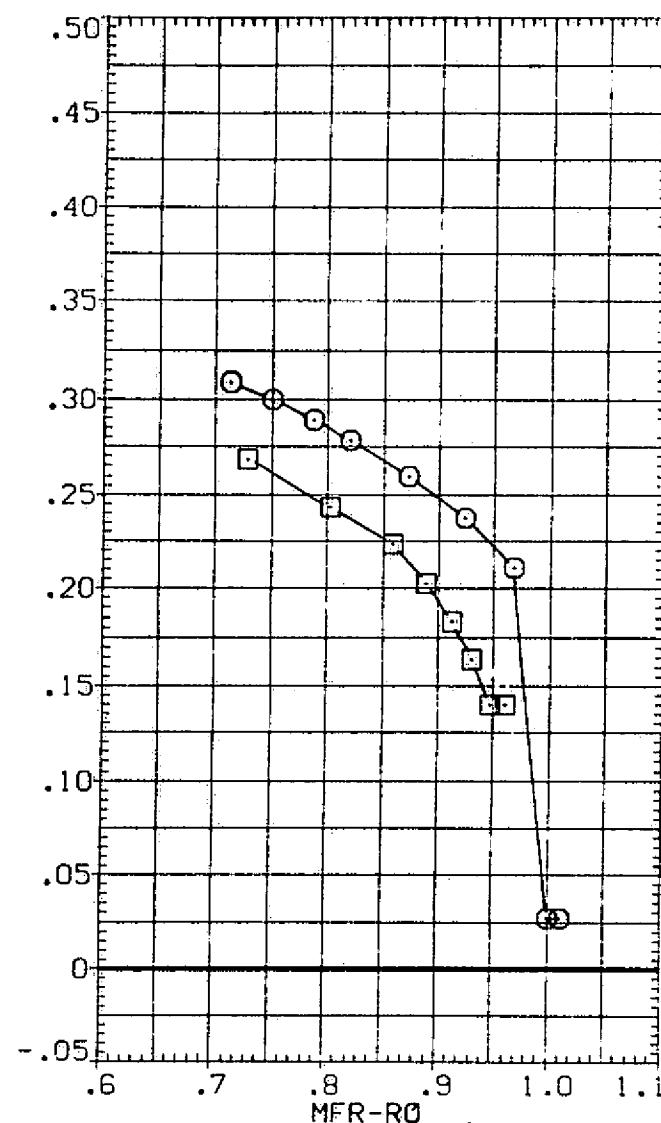
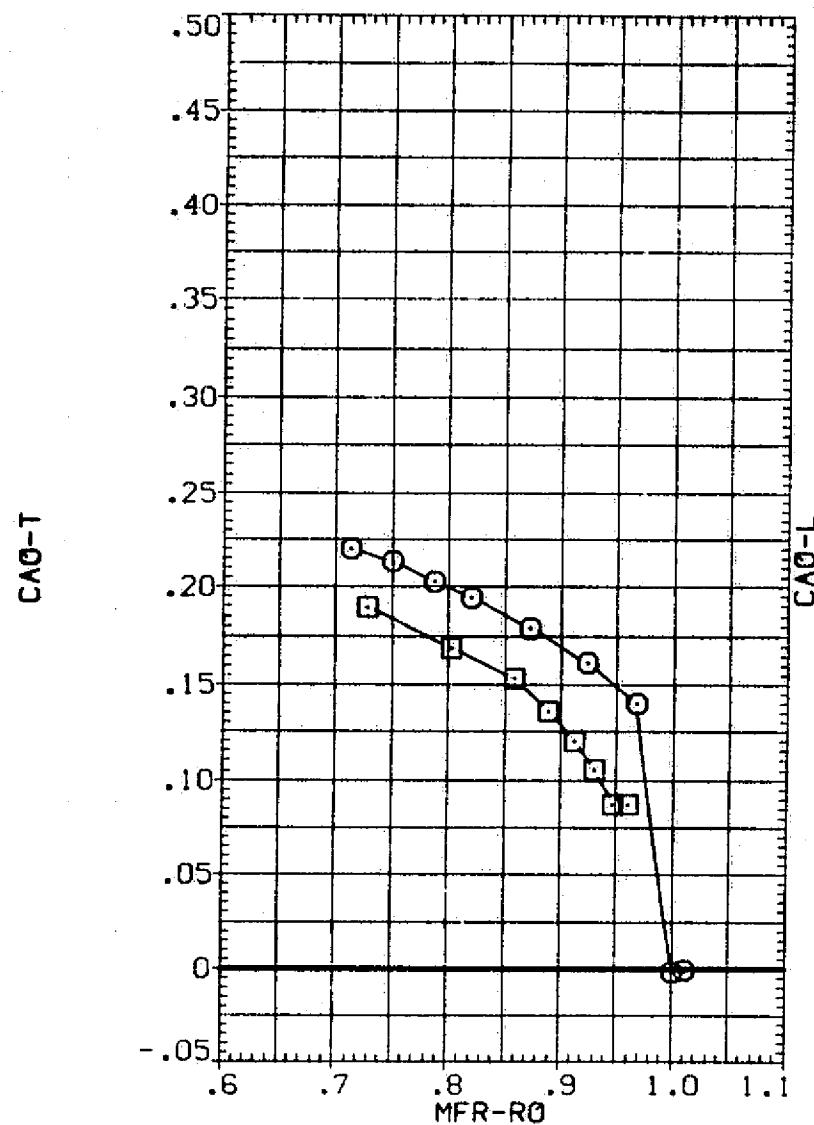


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(G)MACH = 1.40

PAGE 19

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) N1
 (AAP008) N2

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40,000
 8.000 .230 .600 40,000

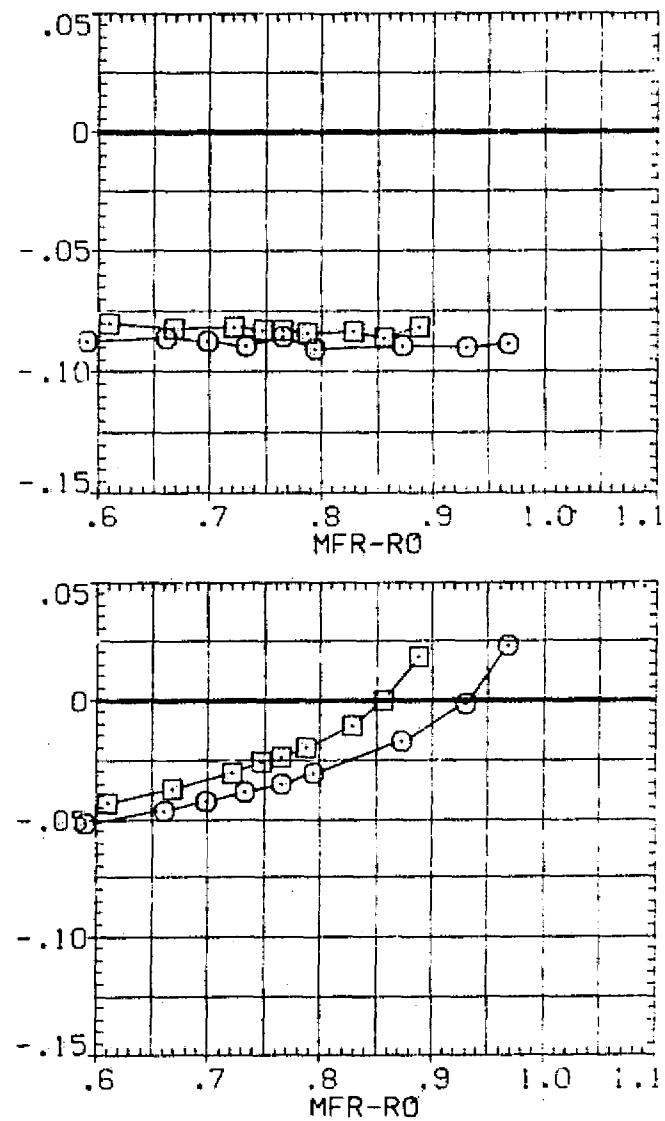
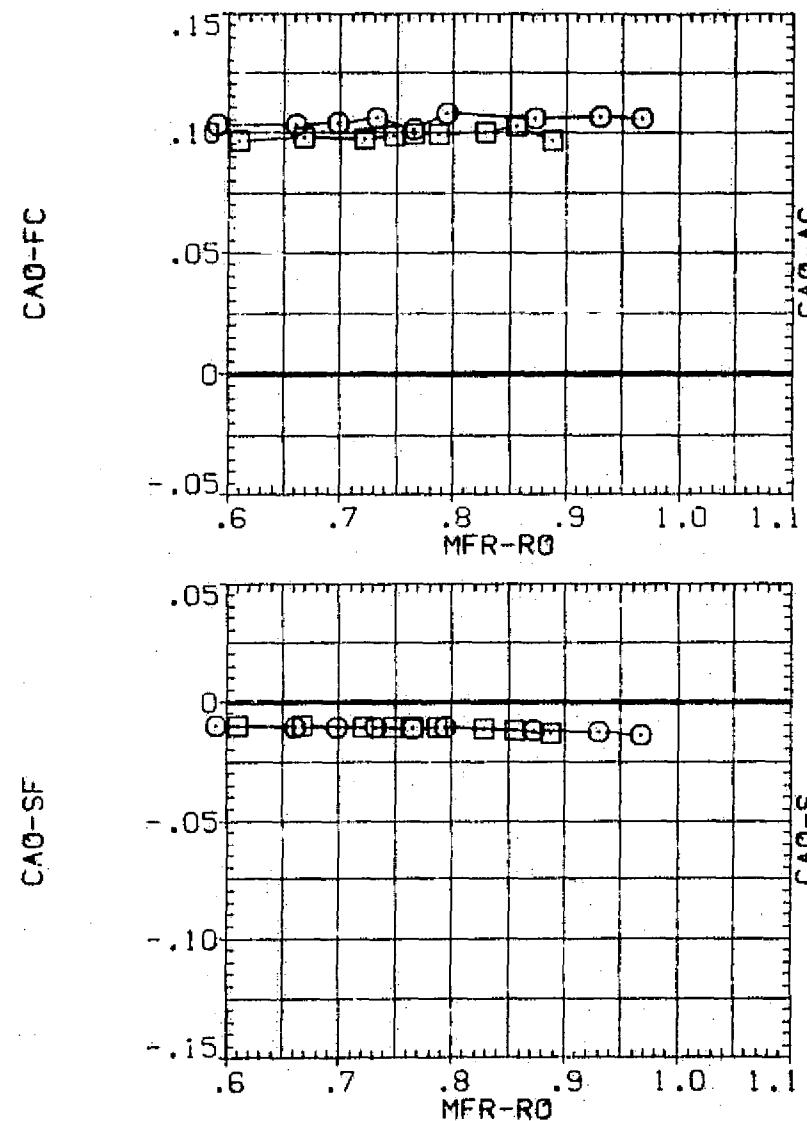


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(A)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) N1
 (AAP008) N2

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

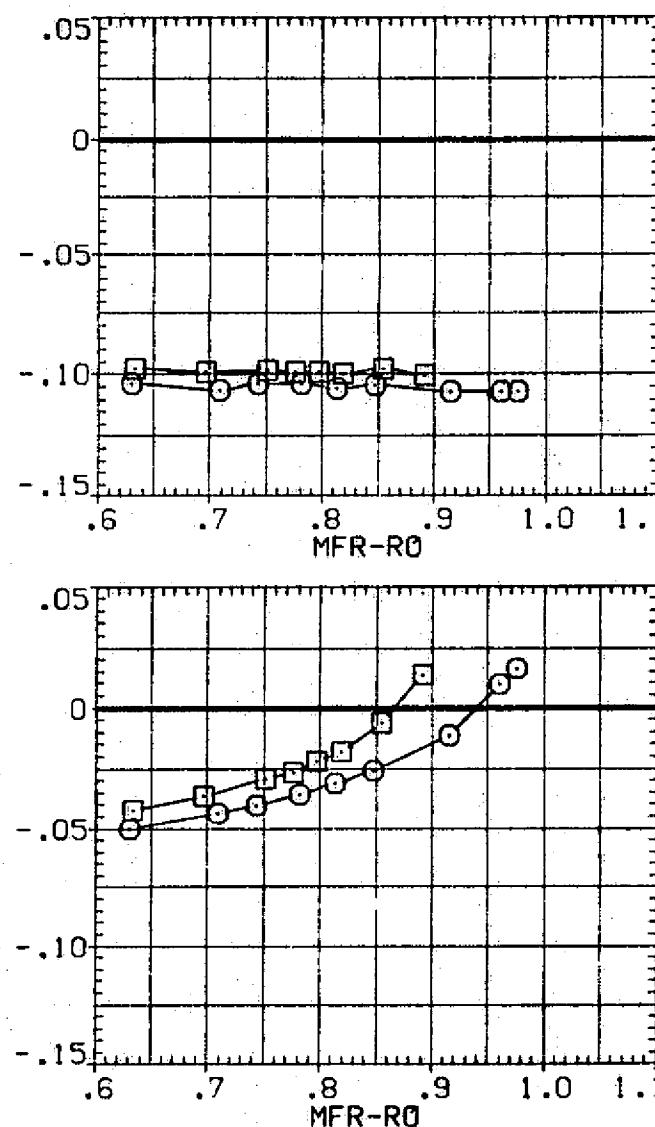
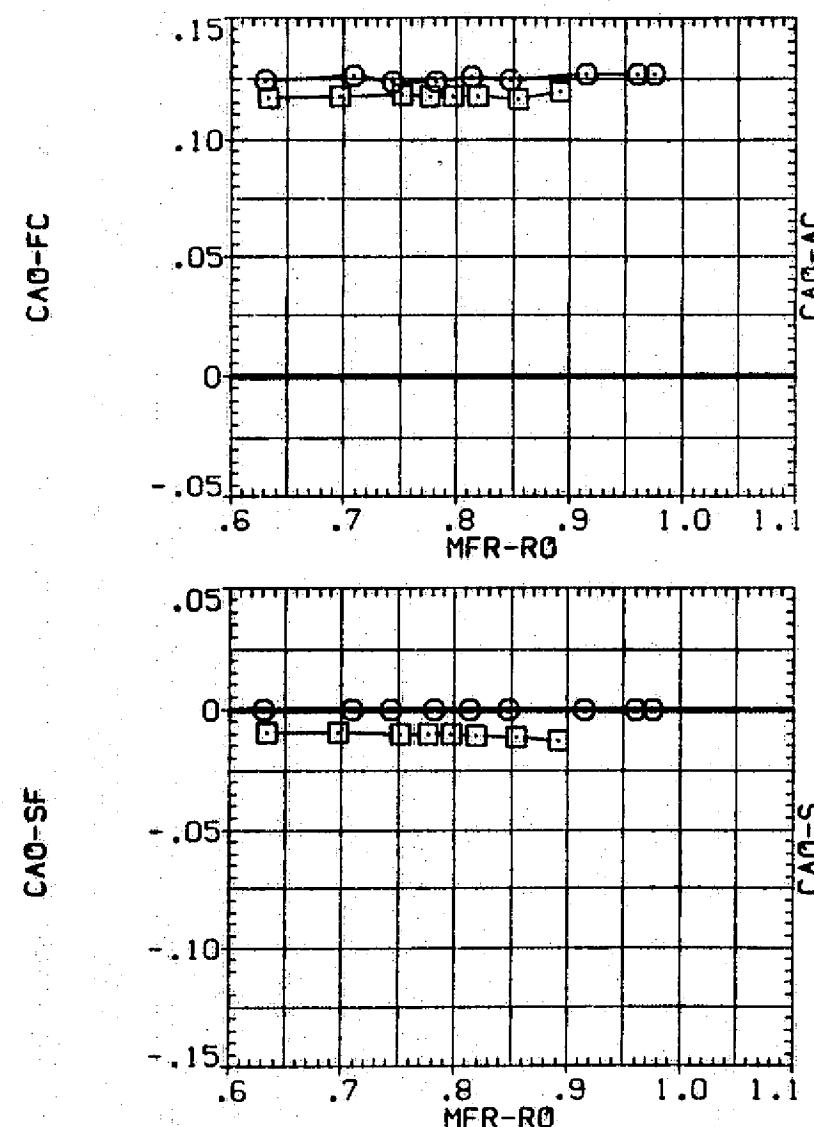


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(B)MACH = .98

PAGE 21

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) N1
 (AAP008) DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

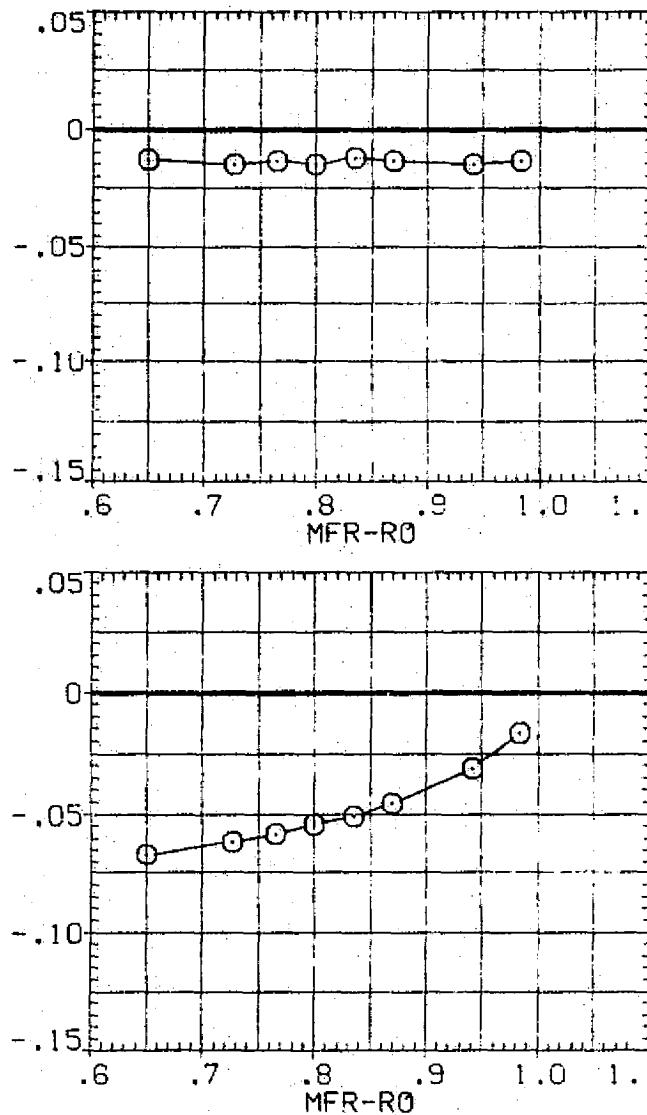
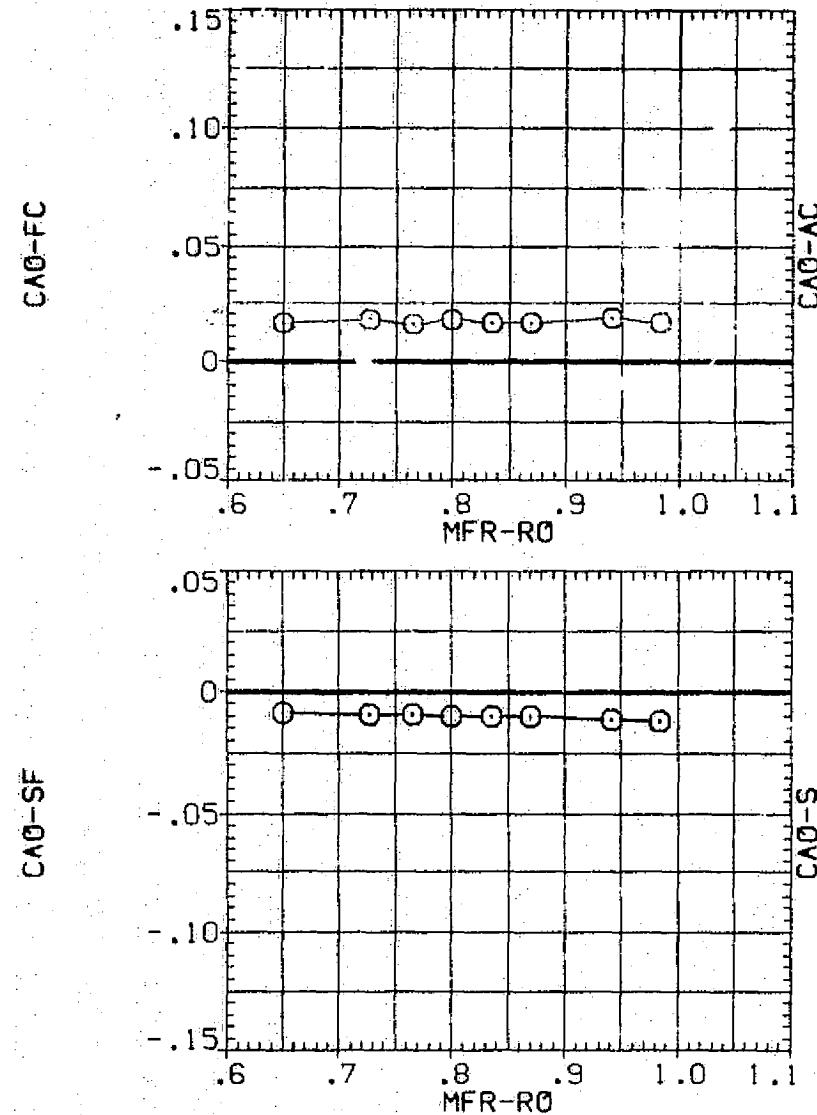


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(C)MACH = 1.10

PAGE 22

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) N1
 (AAP008) N2

DXI 2Y1/B 2Y0/B X-NA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

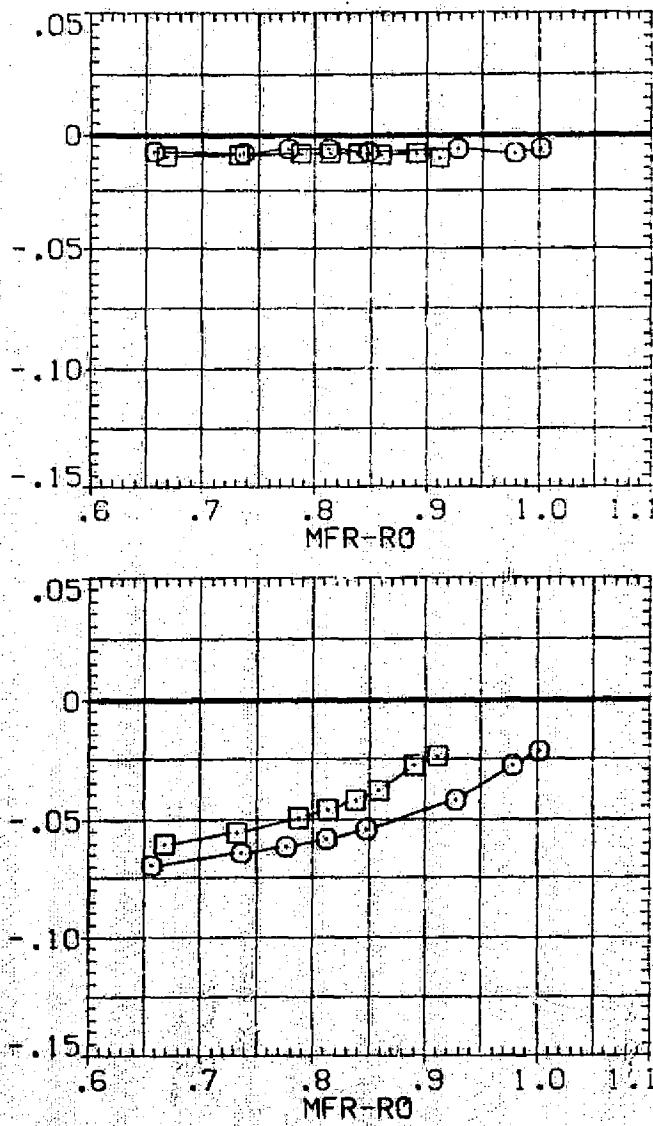
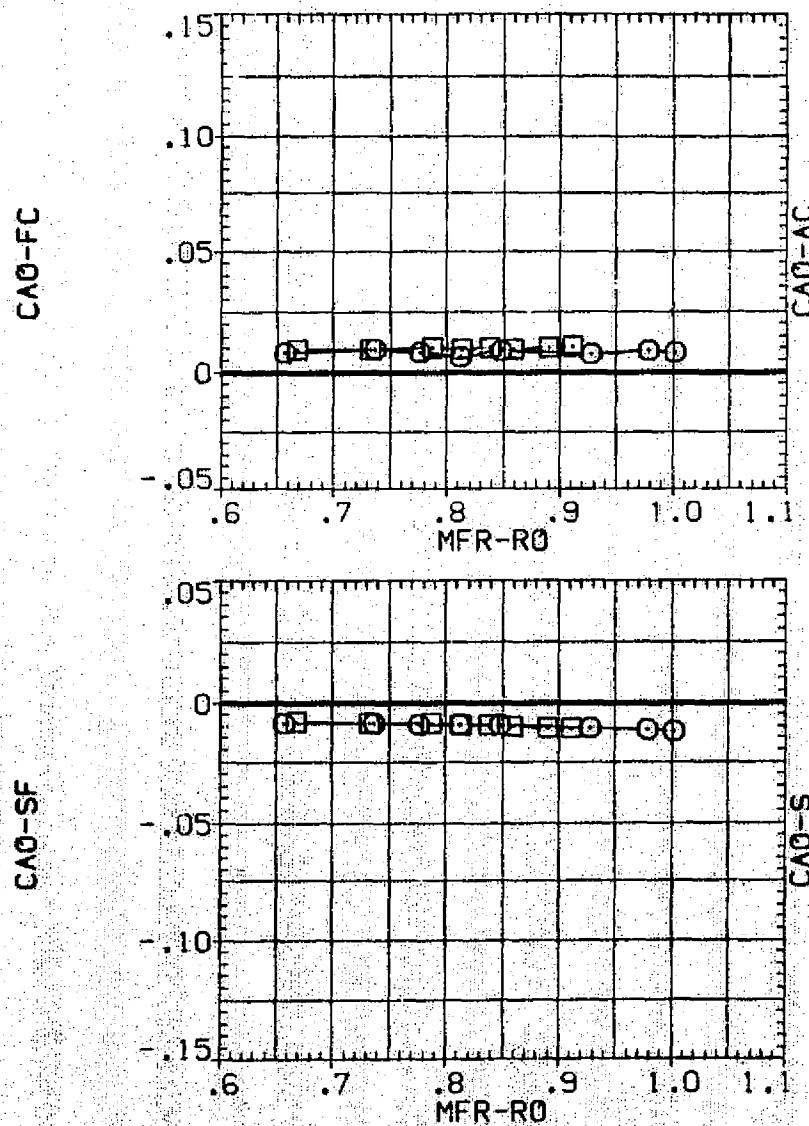


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(CD)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(AAP004) N1

(AAP008) D DATA NOT AVAILABLE

DXI 2Y1/B 2Y0/B X-MA

8,000 .230 .600 40,000

8,000 .230 .600 40,000

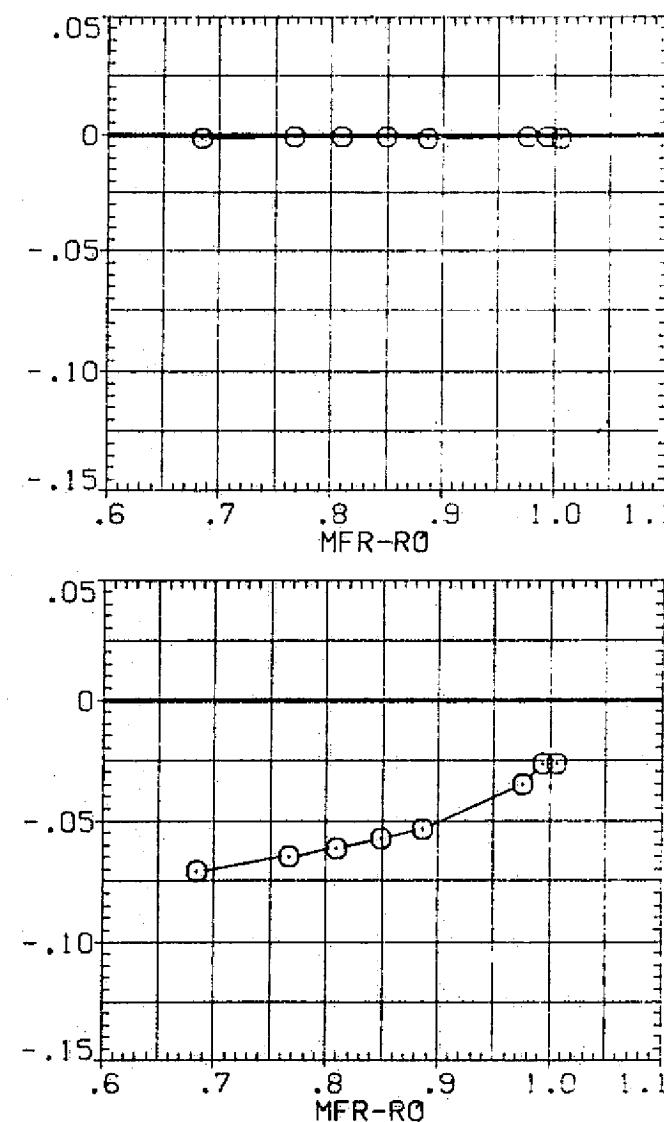
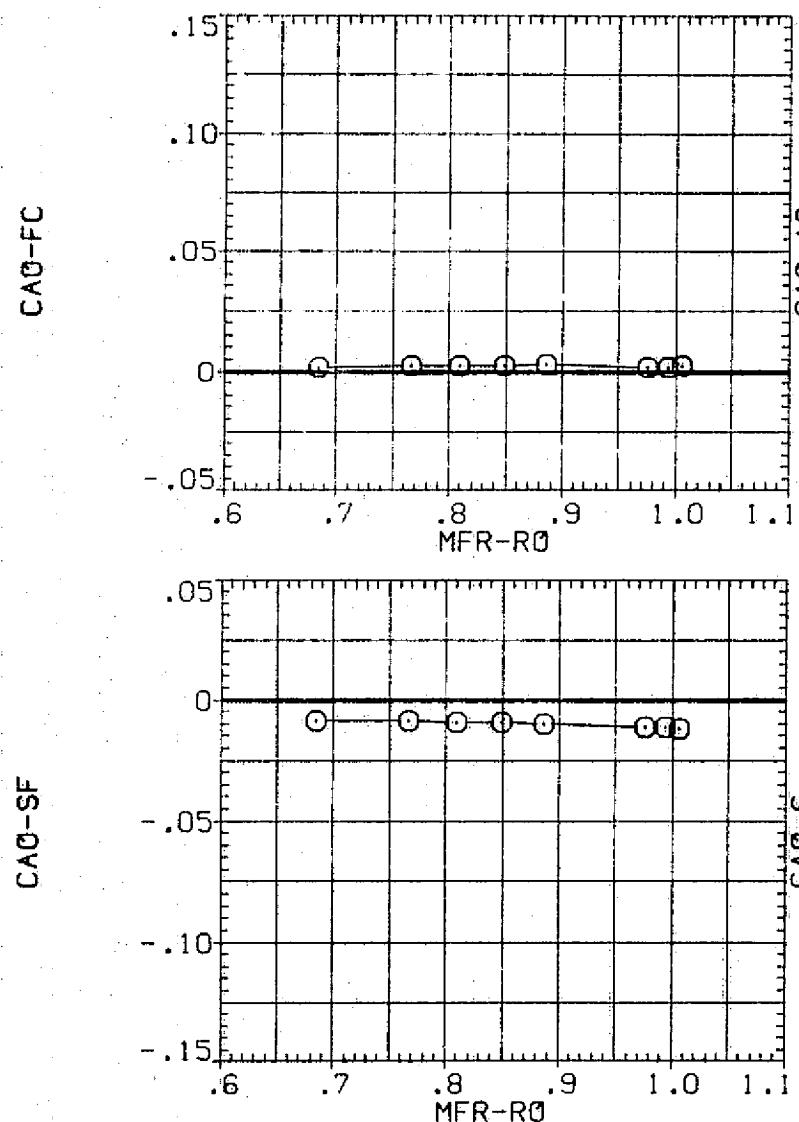


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(E)MACH = 1.20

PAGE 24

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (AAP004) N1
 (AAP008) DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/R X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

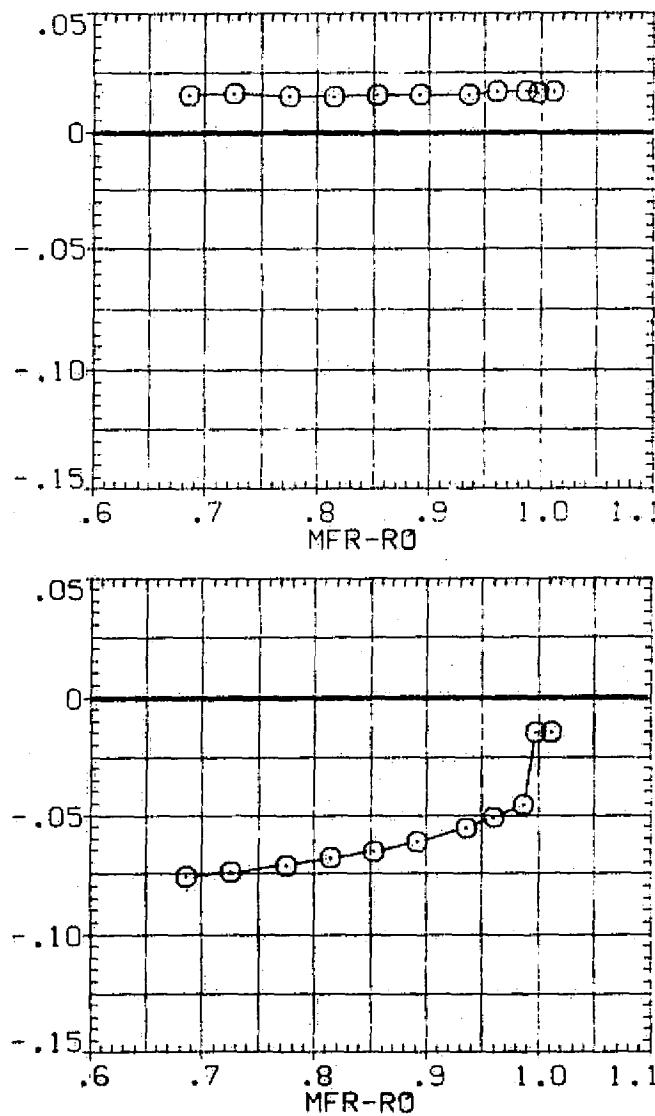
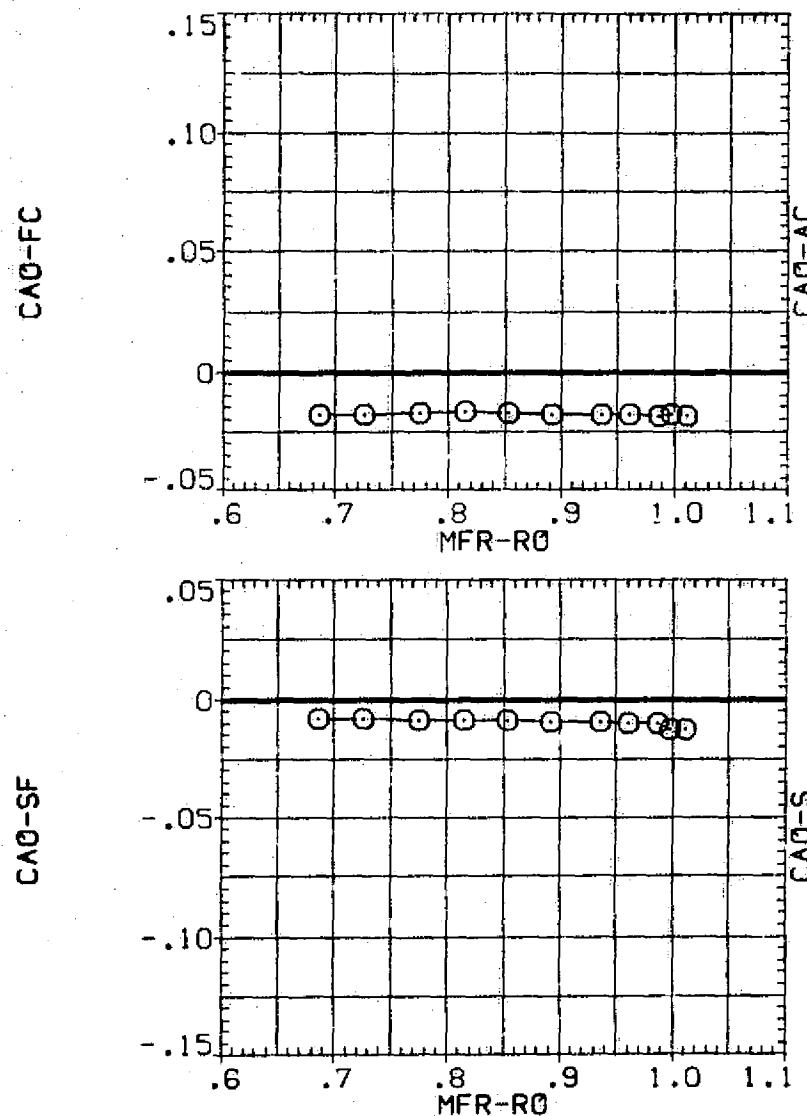


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(E)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

MAP004	○	N1
MAP008	□	N2

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

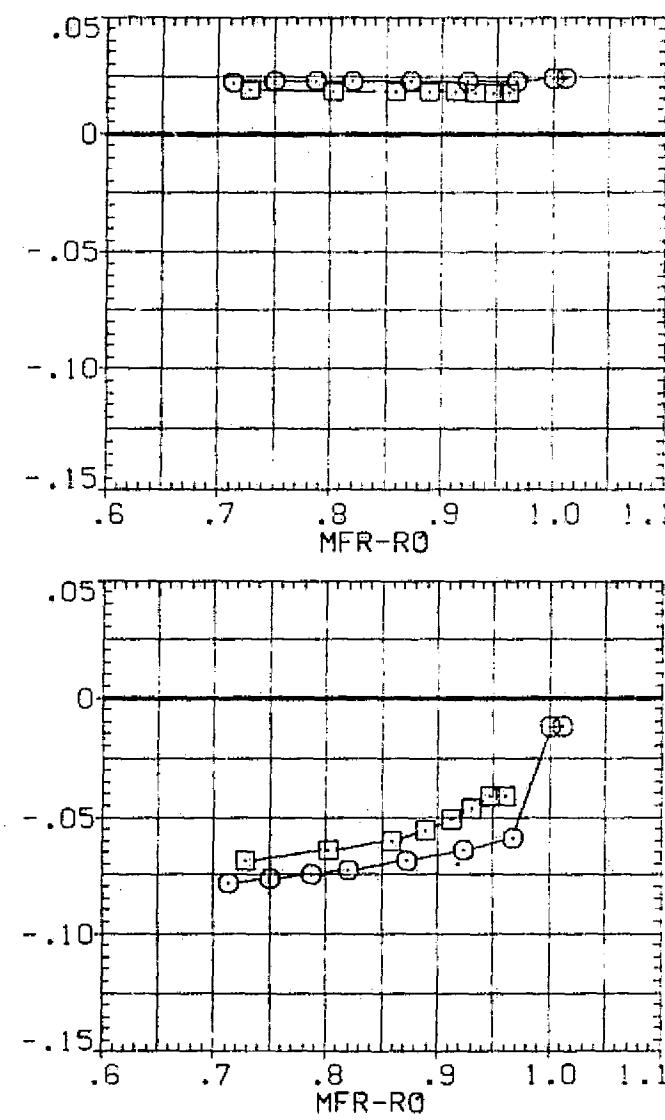
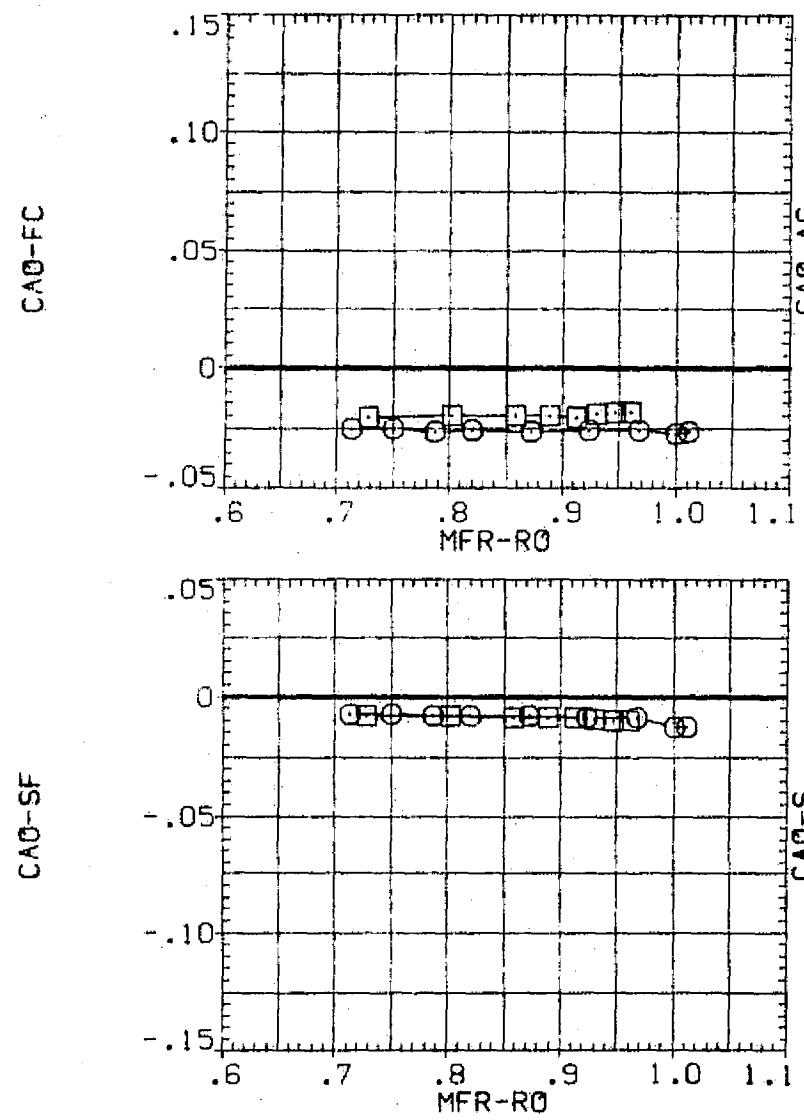


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.
 (G)MACH = 1.40

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAPD014) N1
 (BAPD018) N2

DX1 DY1/B 2Y0/B X-MA
 8.000 .230 .600 40,000
 8.000 .230 .600 40,000

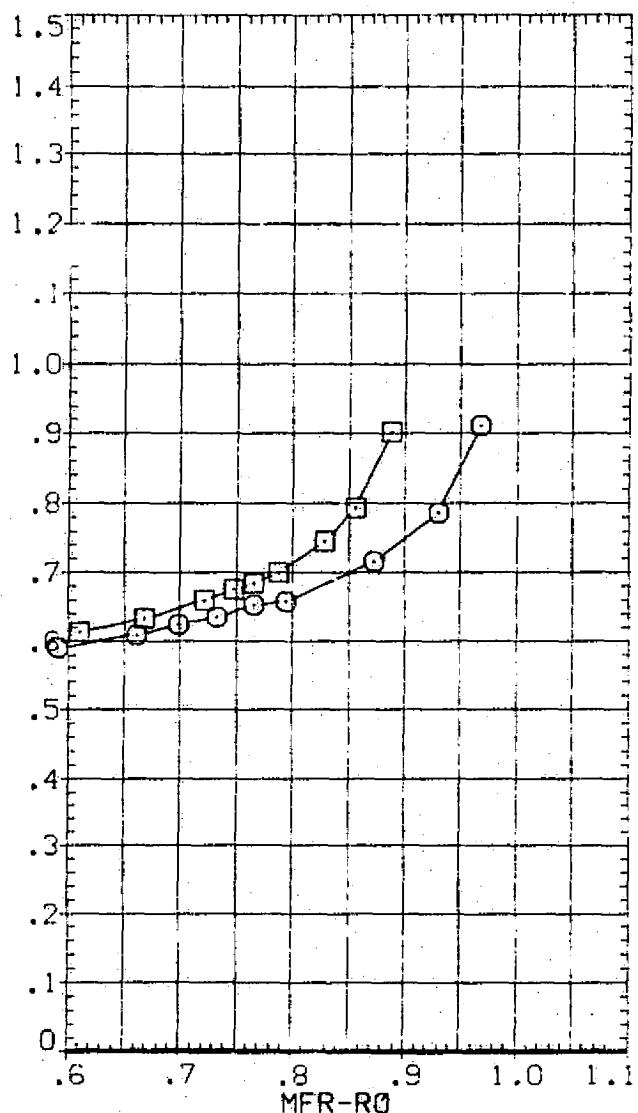
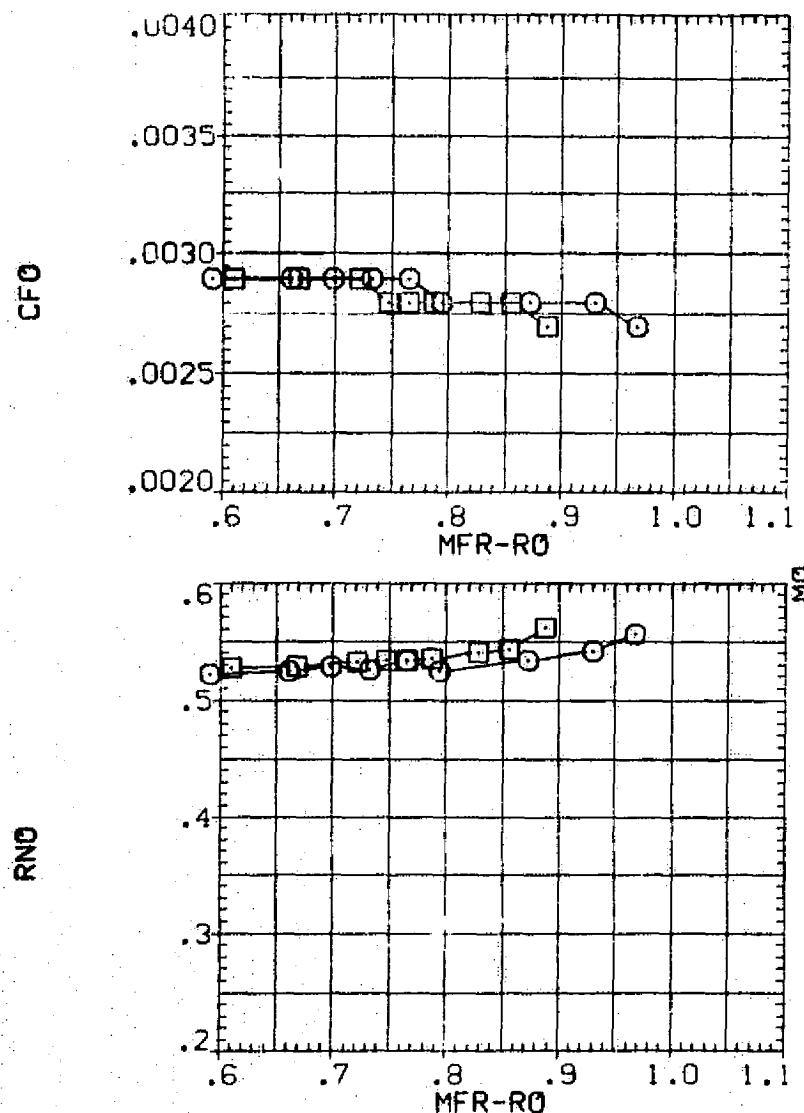


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(A)MACH = .90

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
 (BAP004) N1
 (BAP008) N2

DX1 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40.000
 8.000 .230 .600 40.000

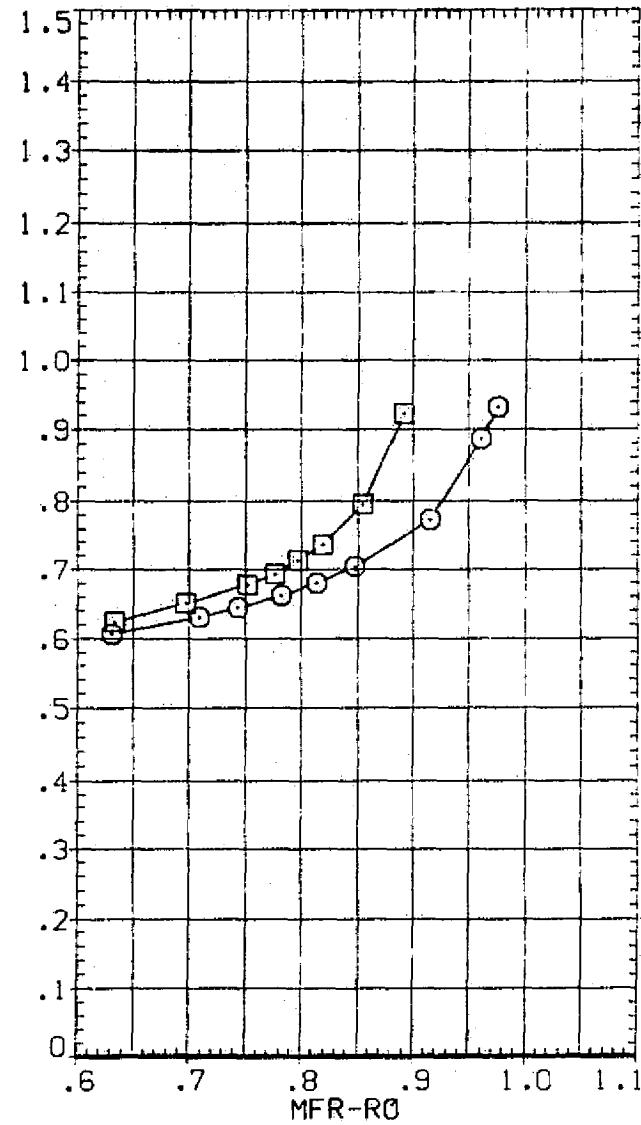
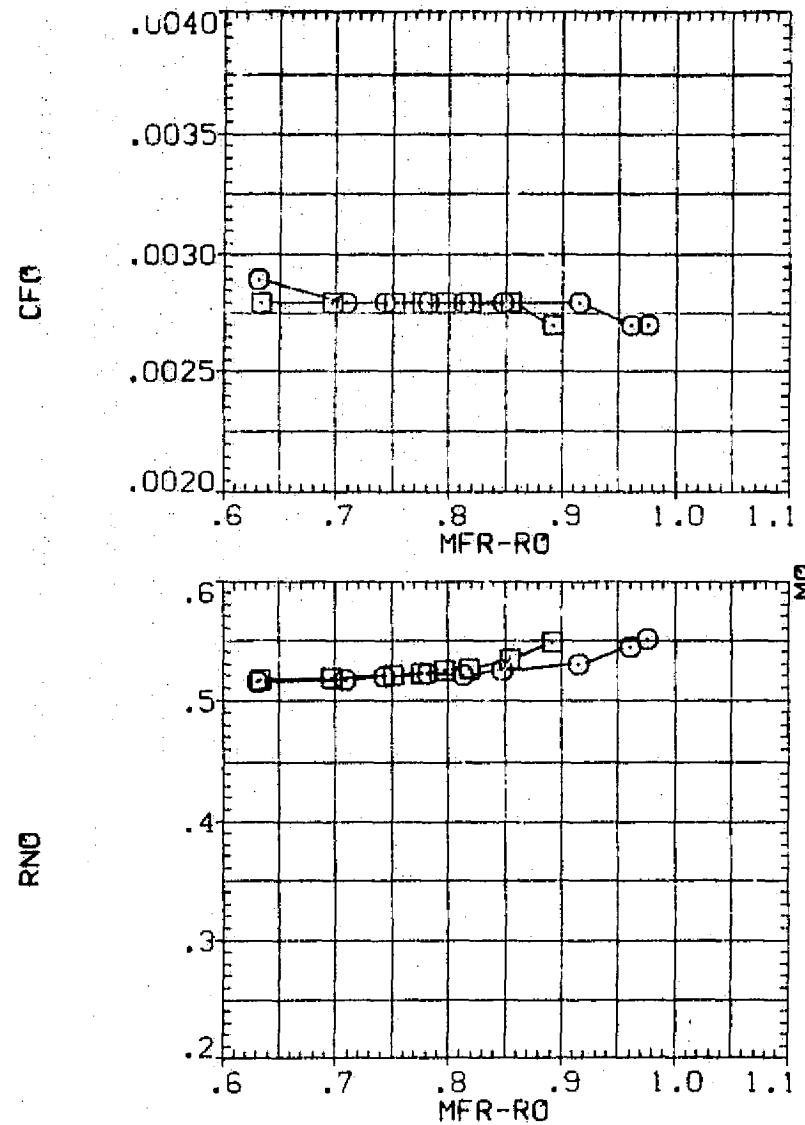


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(B)MACH = .98

PAGE 28

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAP004)  NI
 (BAP008)  DATA NOT AVAILABLE

DXI 2Y1/B 2Y0/B X-MA
 8.000 .230 .600 40,000
 8.000 .230 .600 40,000

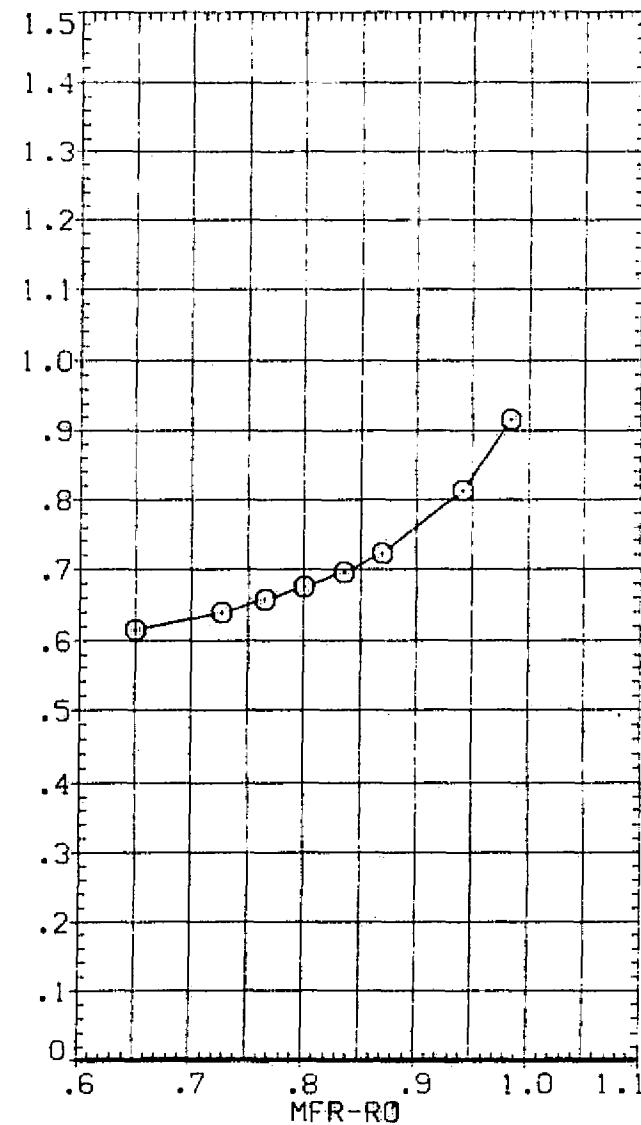
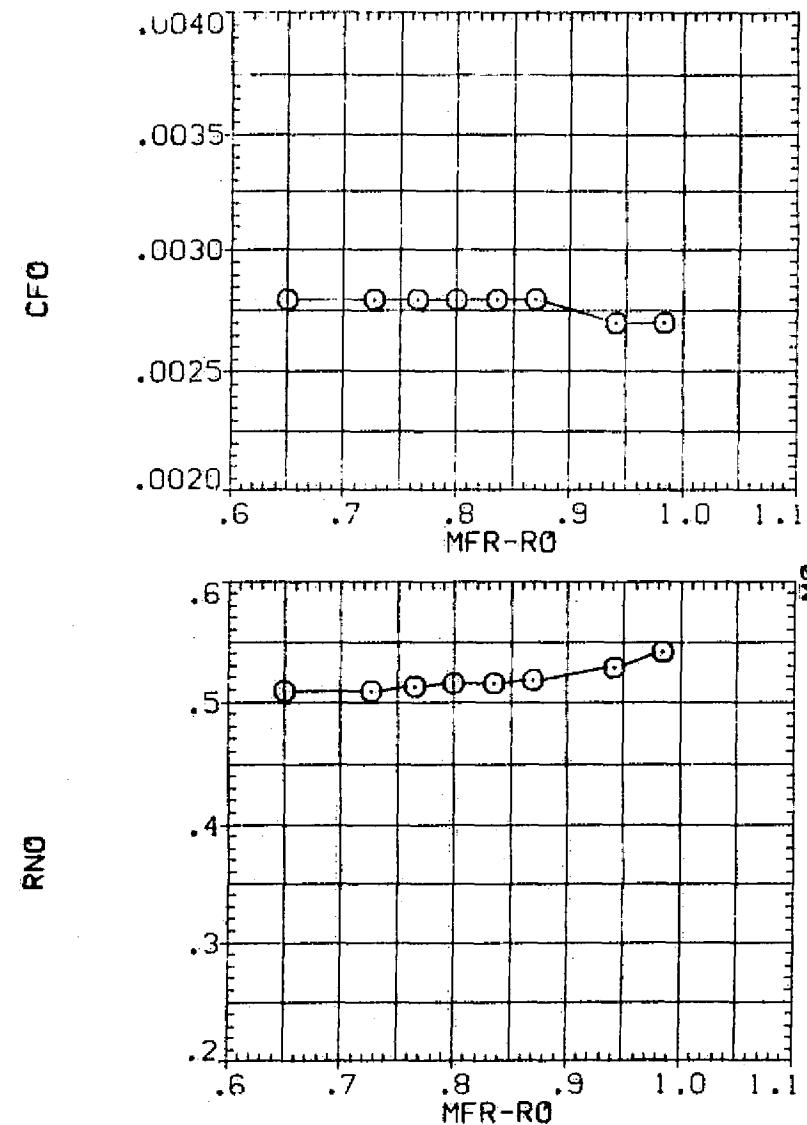


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(COMACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAP004) O N1
 (BAP008) □ N2

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

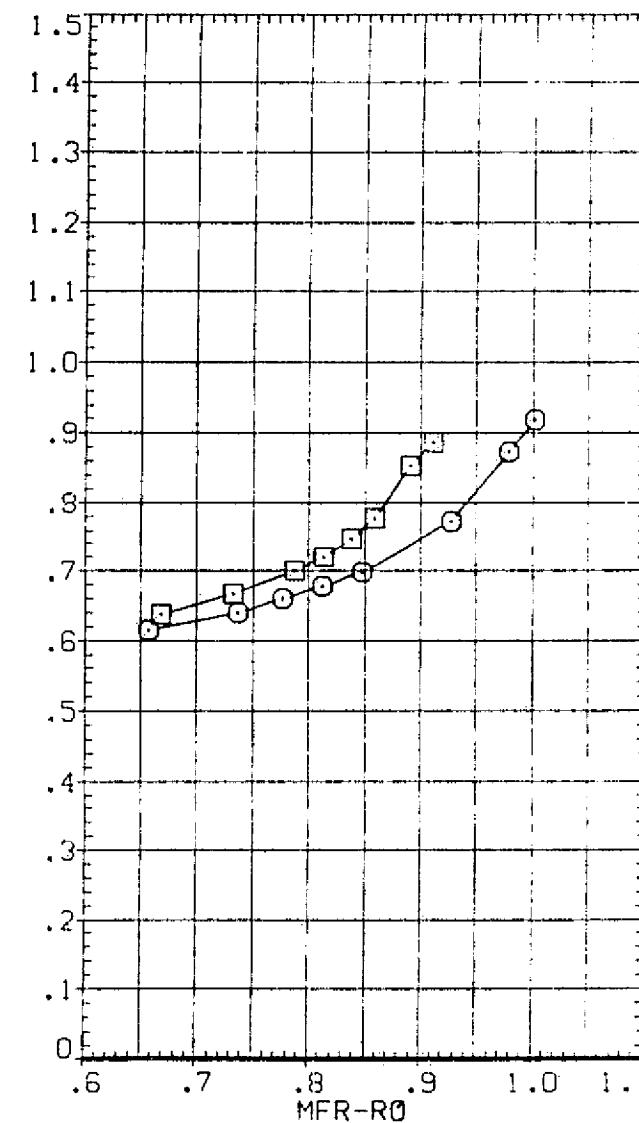
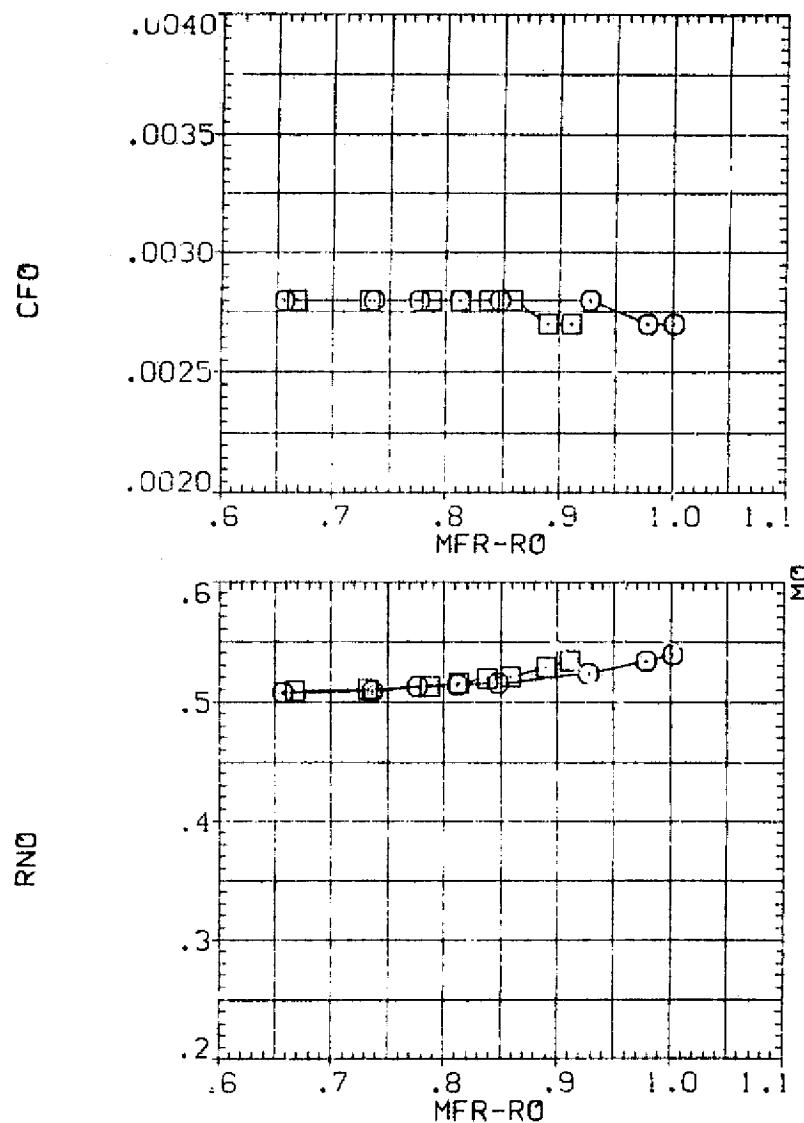


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(D)MACH = 1.15

PAGE 30

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAP004) \bigcirc NI
 (BAP008) \square DATA NOT AVAILABLE

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 .600 40,000
 8,000 .230 .600 40,000

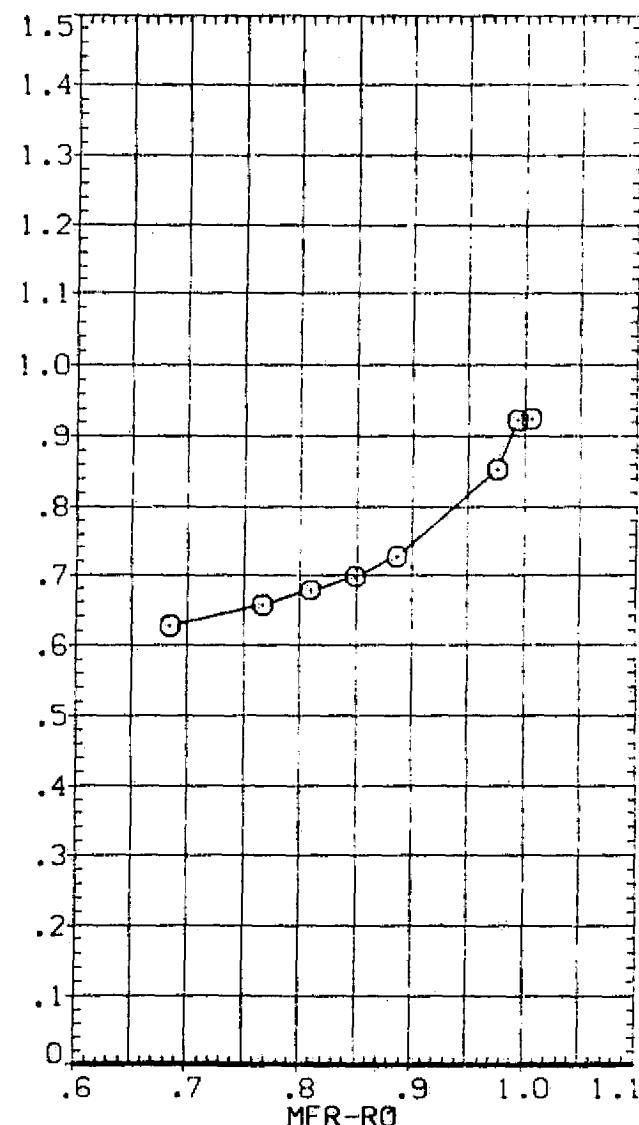
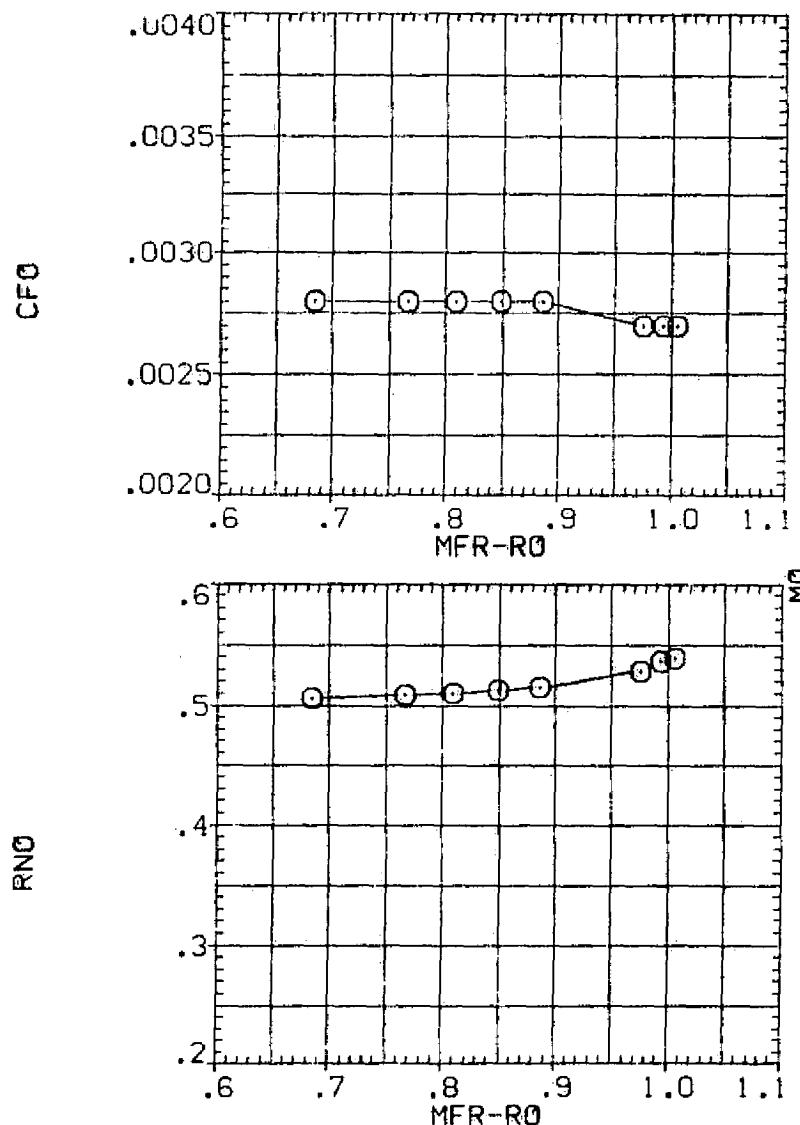


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(E)MACH = 1.20

PAGE 31

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAP004) O NI
 (BAP008) □ DATA NOT AVAILABLE

DX1 2Y1/8 2Y0/8 X-MA
 8.000 .230 .600 40,000
 8.000 .230 .600 40,000

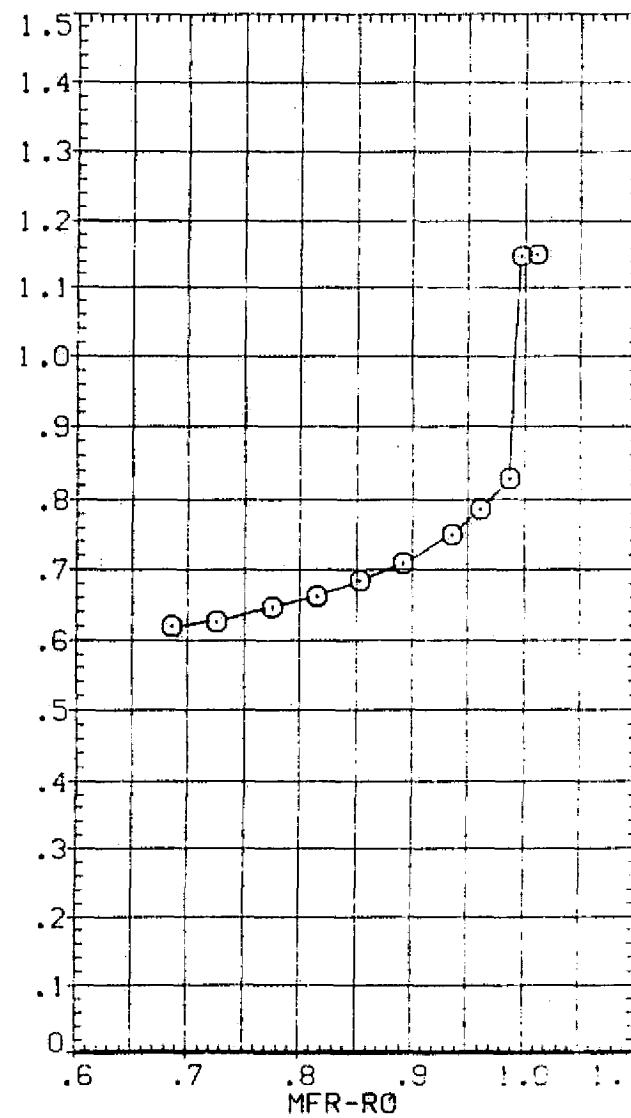
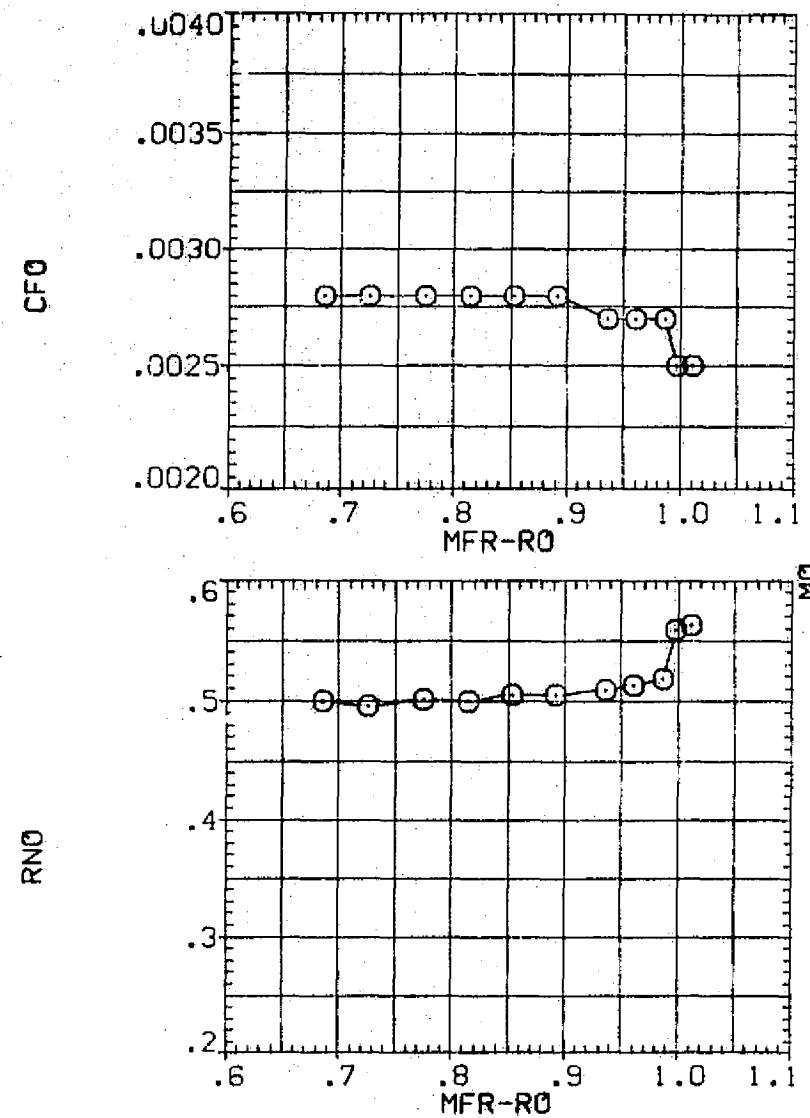


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

CFD MACH = 1.30

PAGE 32

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (BAP004) N1
 (BAP008) N2

DX1 2Y1/B 2Y0/B X-MA
 8,000 .230 ,600 40,000
 8,000 .230 ,600 40,000

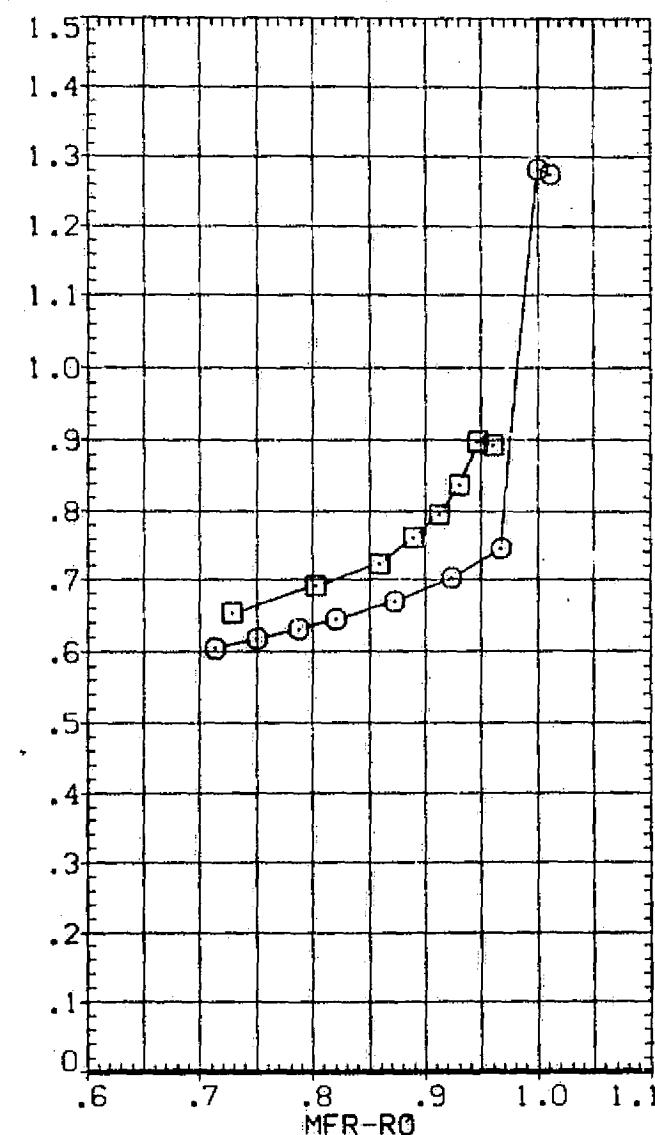
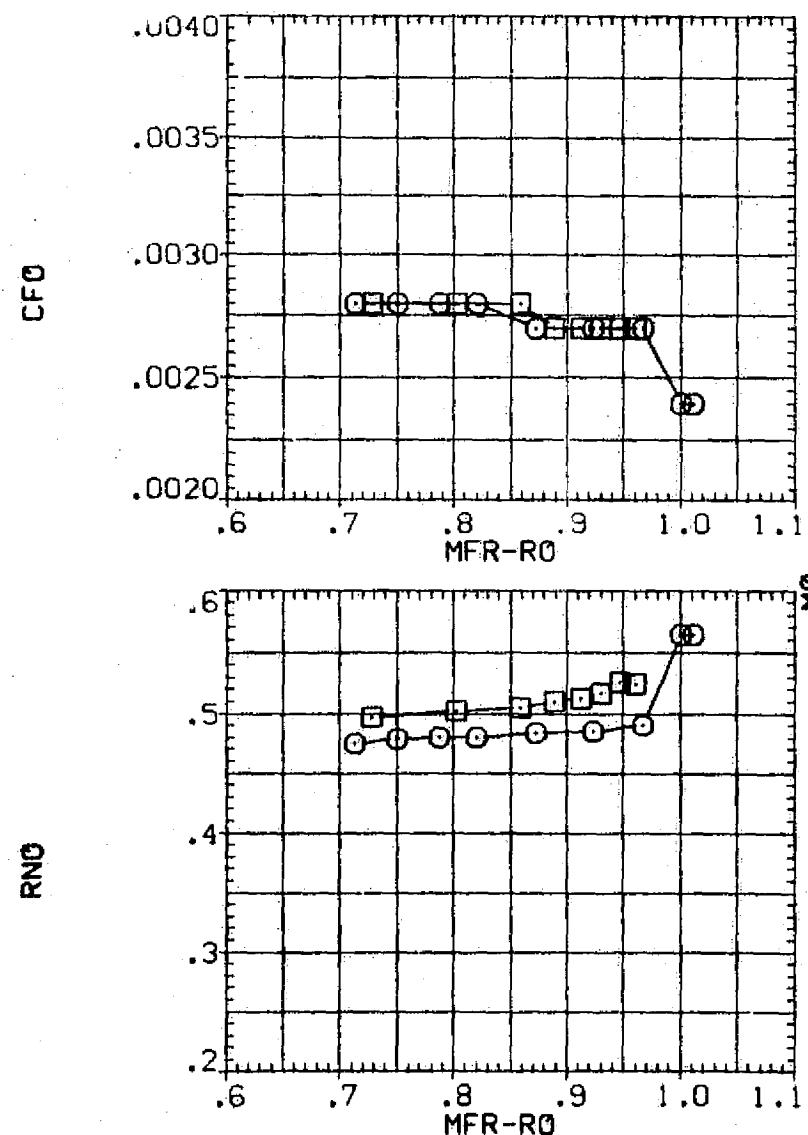


FIG. 6 EFFECTS OF MASS FLOW RATIO ON ISOLATED NACELLE CHARACTERISTICS.

(G)MACH = 1.40

PAGE 33

N2 N2

(RAP010)

SYMBOL MACH

- .907
- 1.101
- ◊ 1.149
- △ 1.196
- ▽ 1.297
- △ 1.399

PARAMETRIC VALUES

.000	2Y1/B	.550
.250		

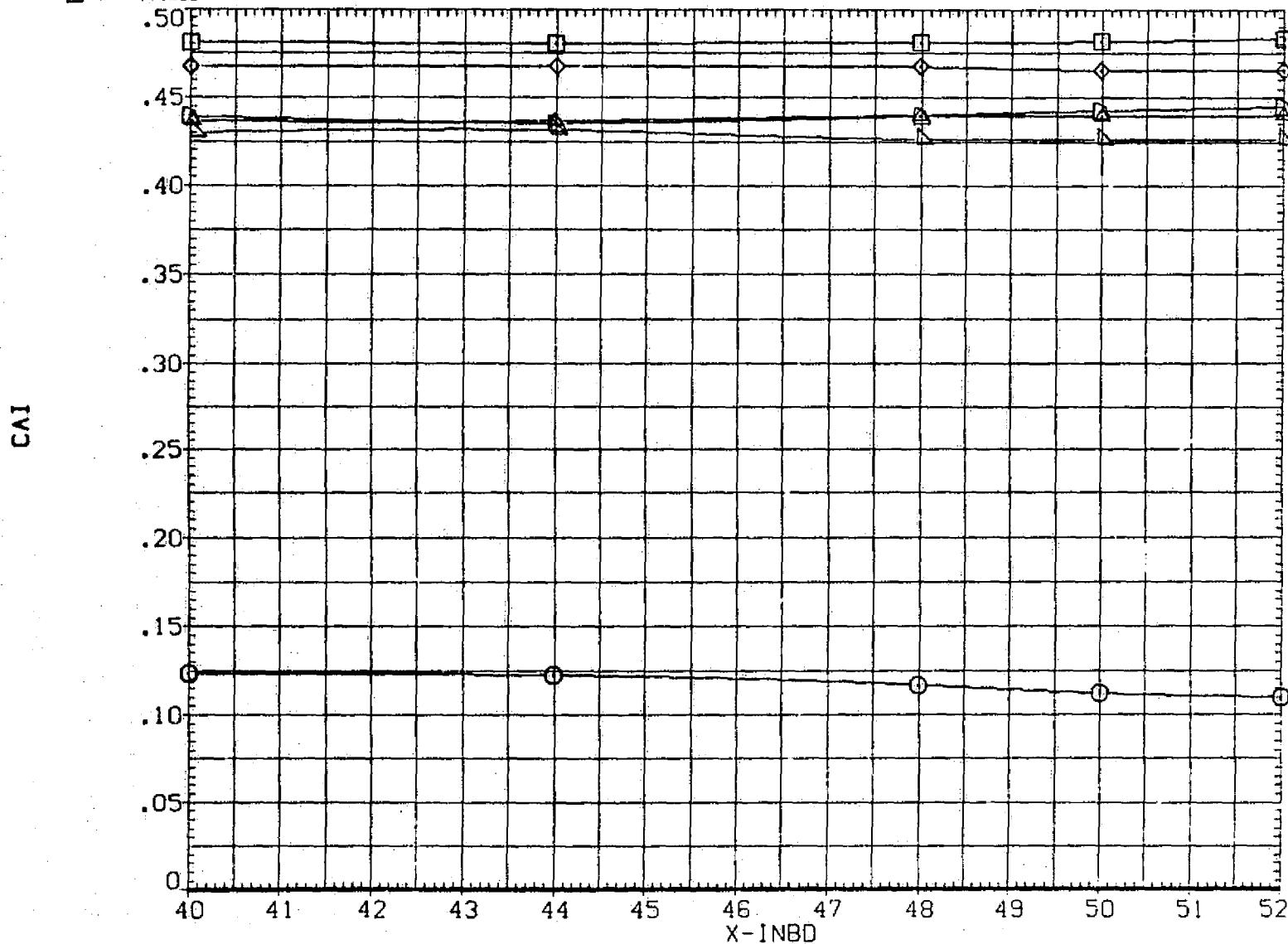


FIG. 7 INTERFERENCE OF STING FAIRING ON NACELLE AXIAL FORCE.

N2 N2

(RAP010)

SYMBOL MACH PARAMETRIC VALUES
.907 DX .000 2Y0/B .550
1.101 2Y1/B .250
1.149
1.196
1.297
1.399

CA9

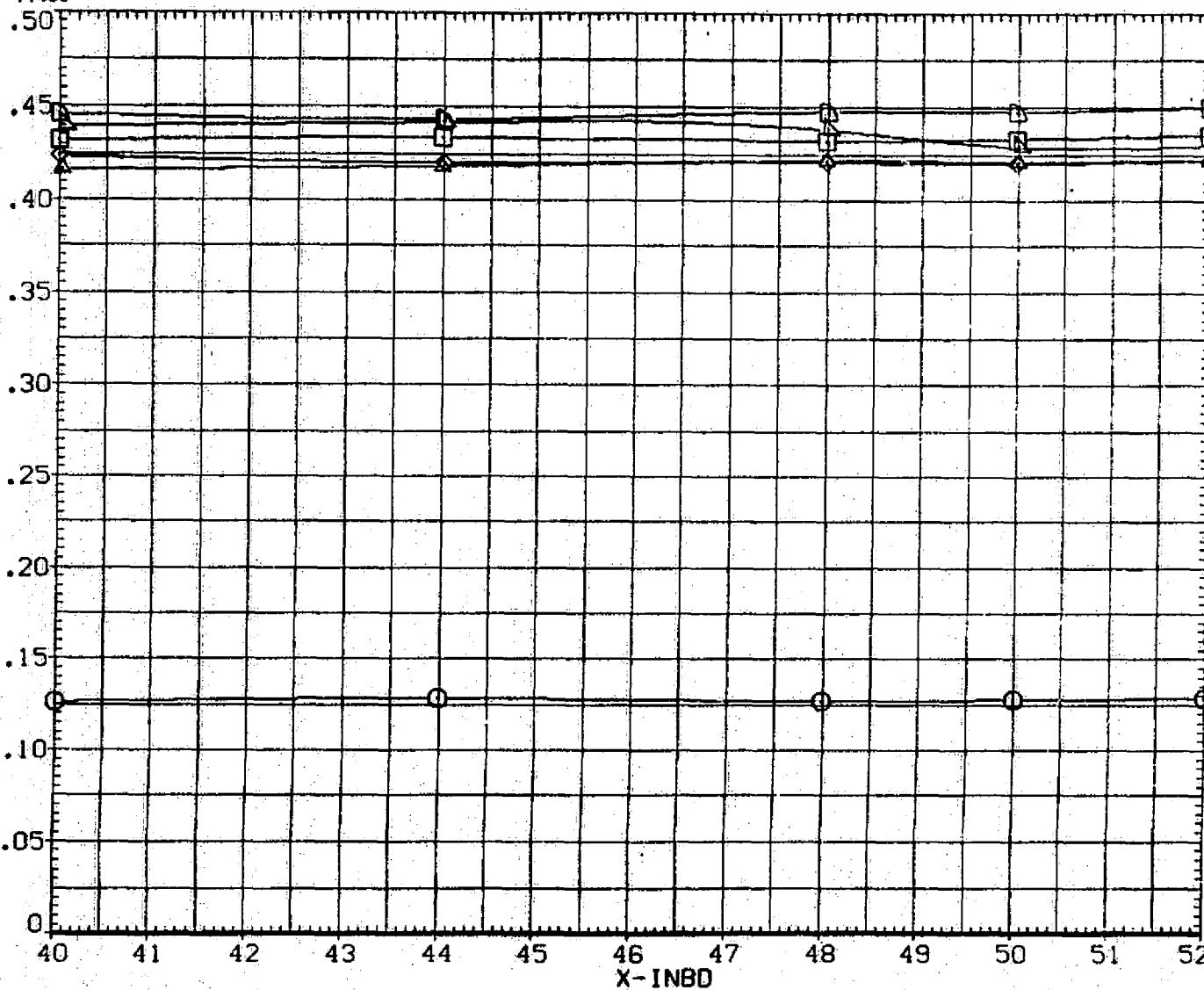
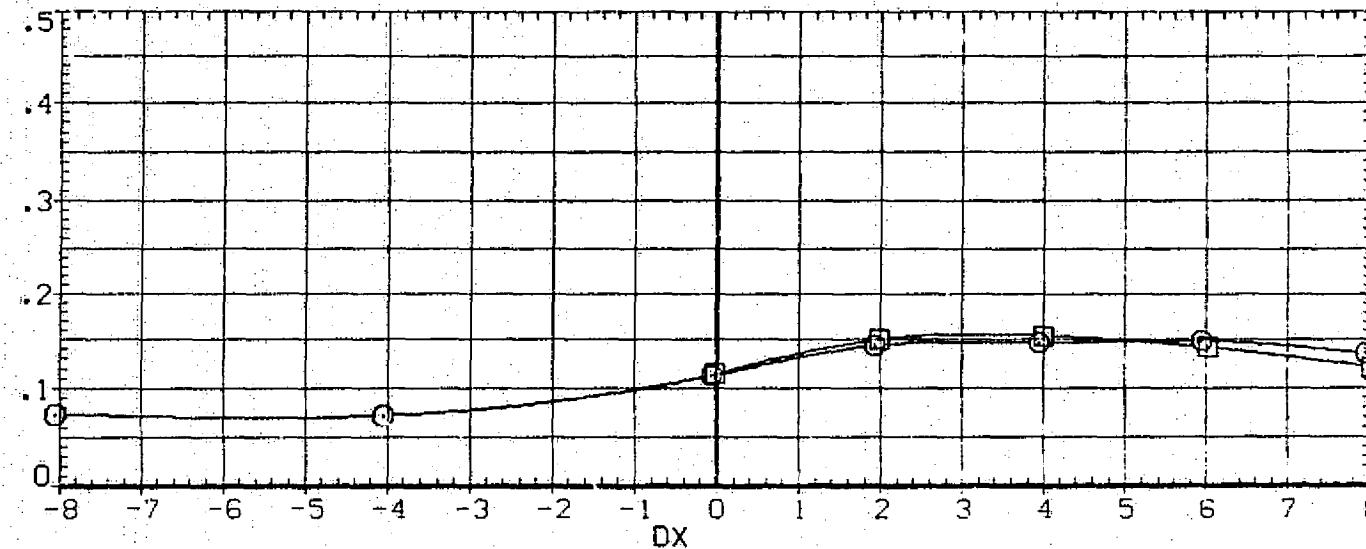


FIG. 7 INTERFERENCE OF STING FAIRING ON NACELLE AXIAL FORCE.

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP011) N2 N2
 (RAP014) N1 N1

X-INBD 2Y1/B 2Y0/B
 40,000 .250 .550
 40,000 .250 .550

CAI



CA0

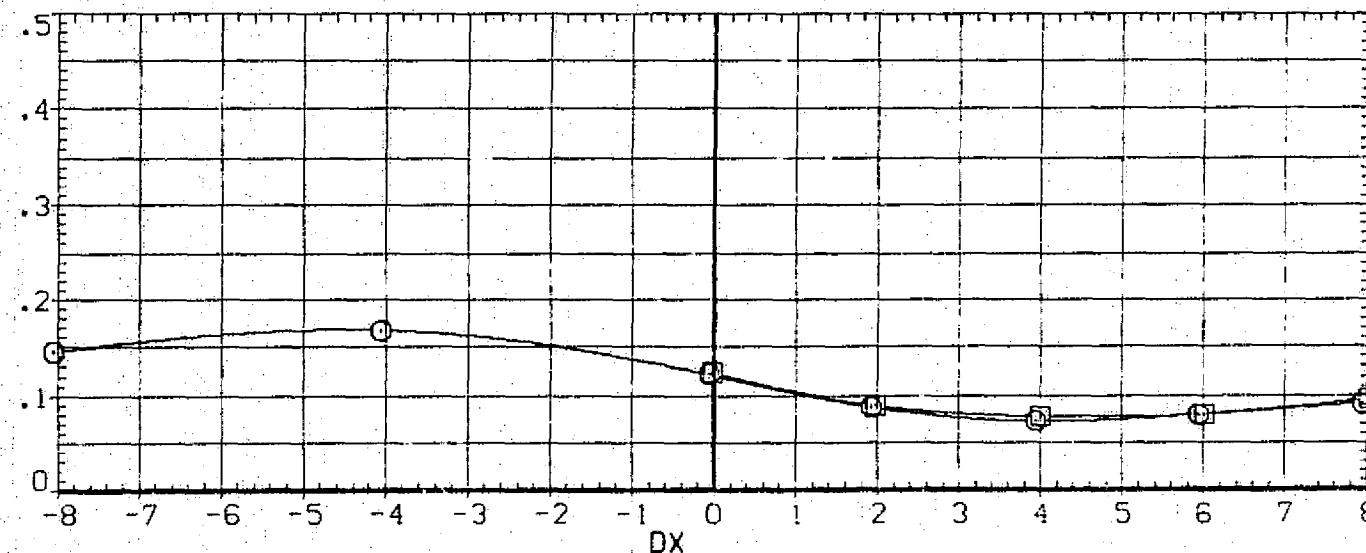


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

CA0MACH = .90

PAGE 36

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAPD11) N2 N2
 (ZAPD14) N1 N1

X-1N80 2Y1/8 2Y0/8
 40.000 .250 .550
 40.000 .250 .550

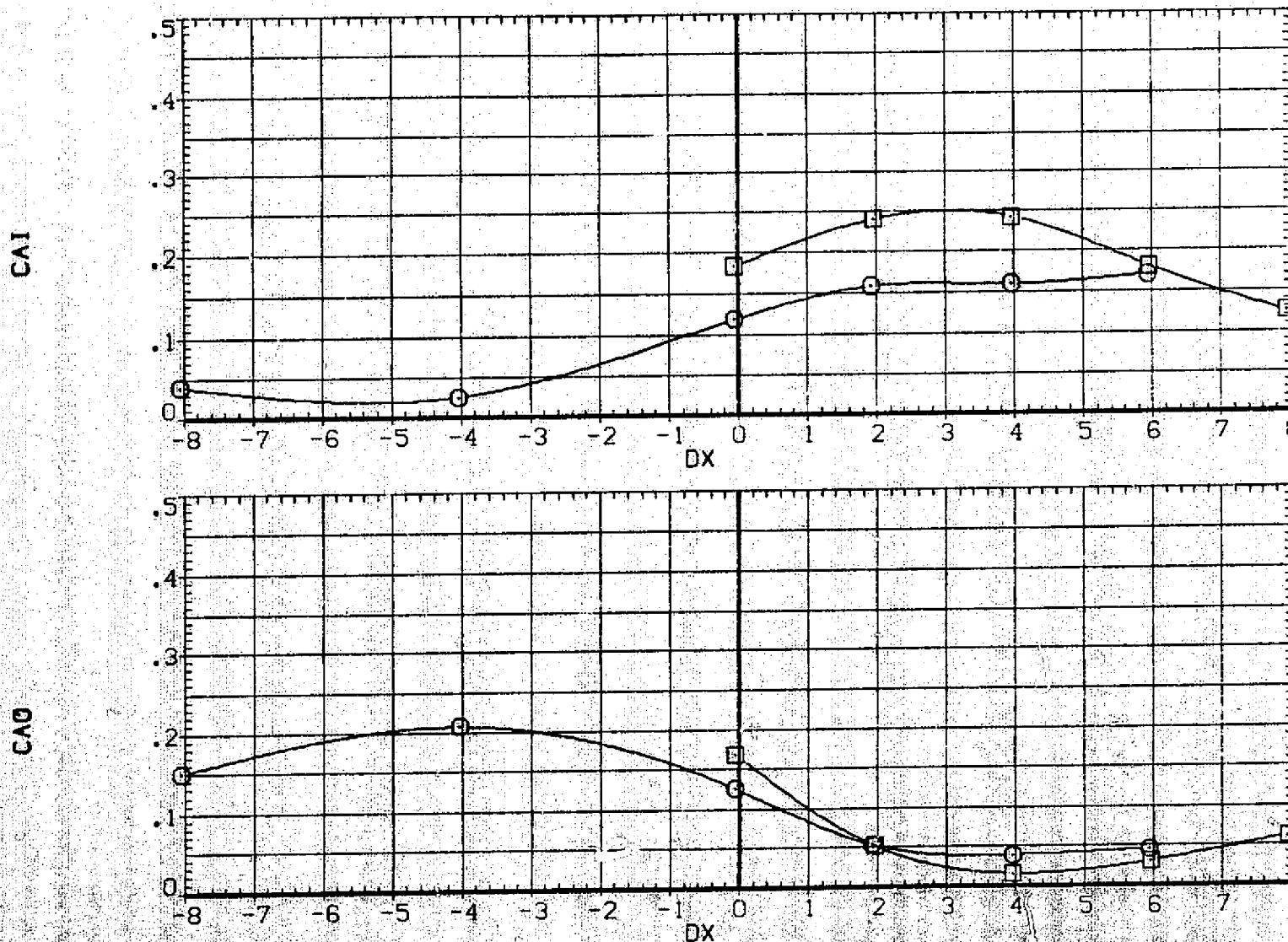


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

DATA SET SYMBOL CONFIGURATION DESCRIPTION
12AP0111 N2 N2
12AP0141 N1 N1

X- INBD 2Y1/B 2Y0/B
40,000 .250 .550
40,000 .200 .550

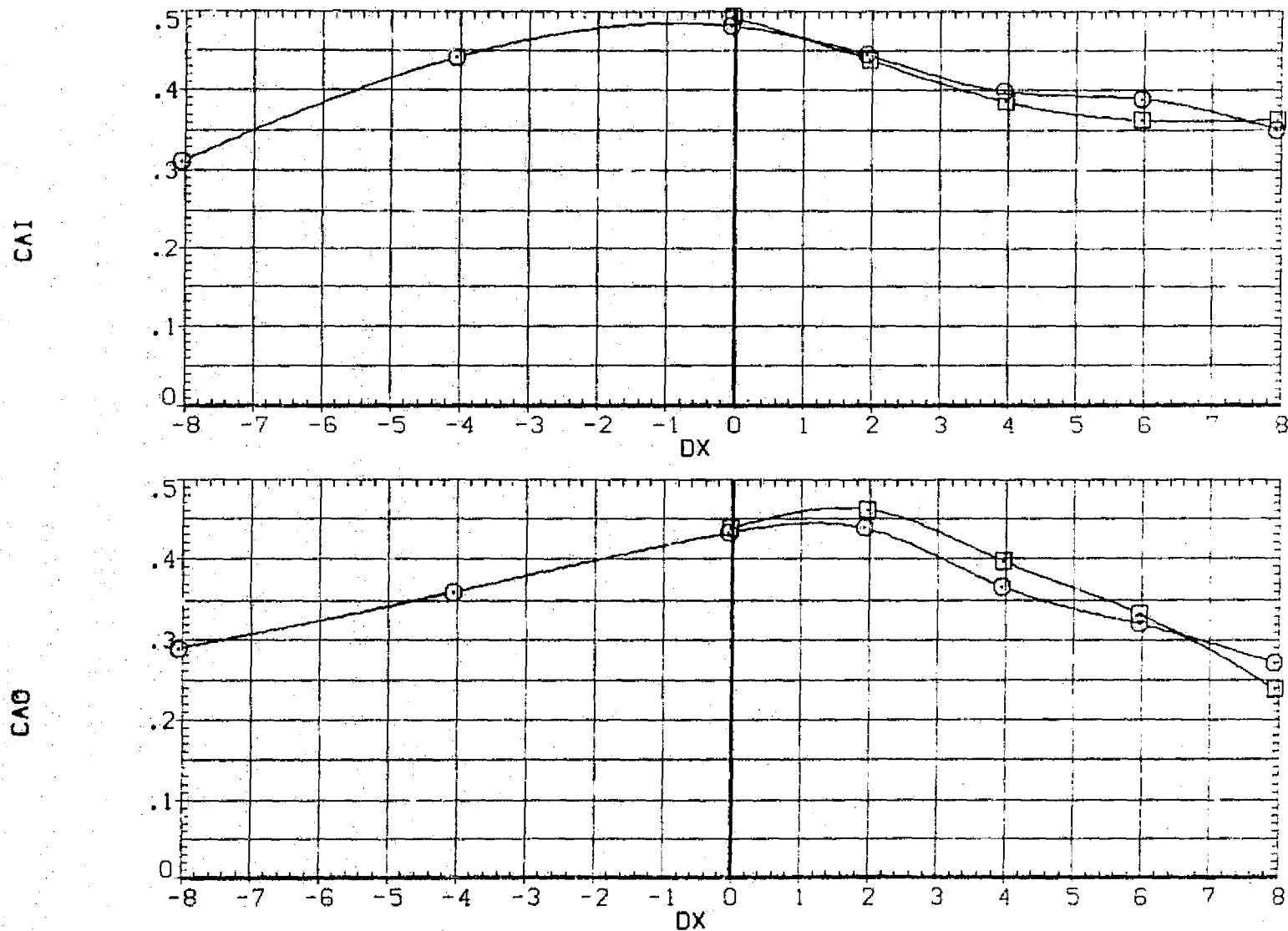


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(C)MACH = 1.10

PAGE 38

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP011)  N2 N2
 (ZAP014)  N1 N1

X-INBD	2Y1/B	2Y0/B
40,000	.250	.550
40,000	.250	.550

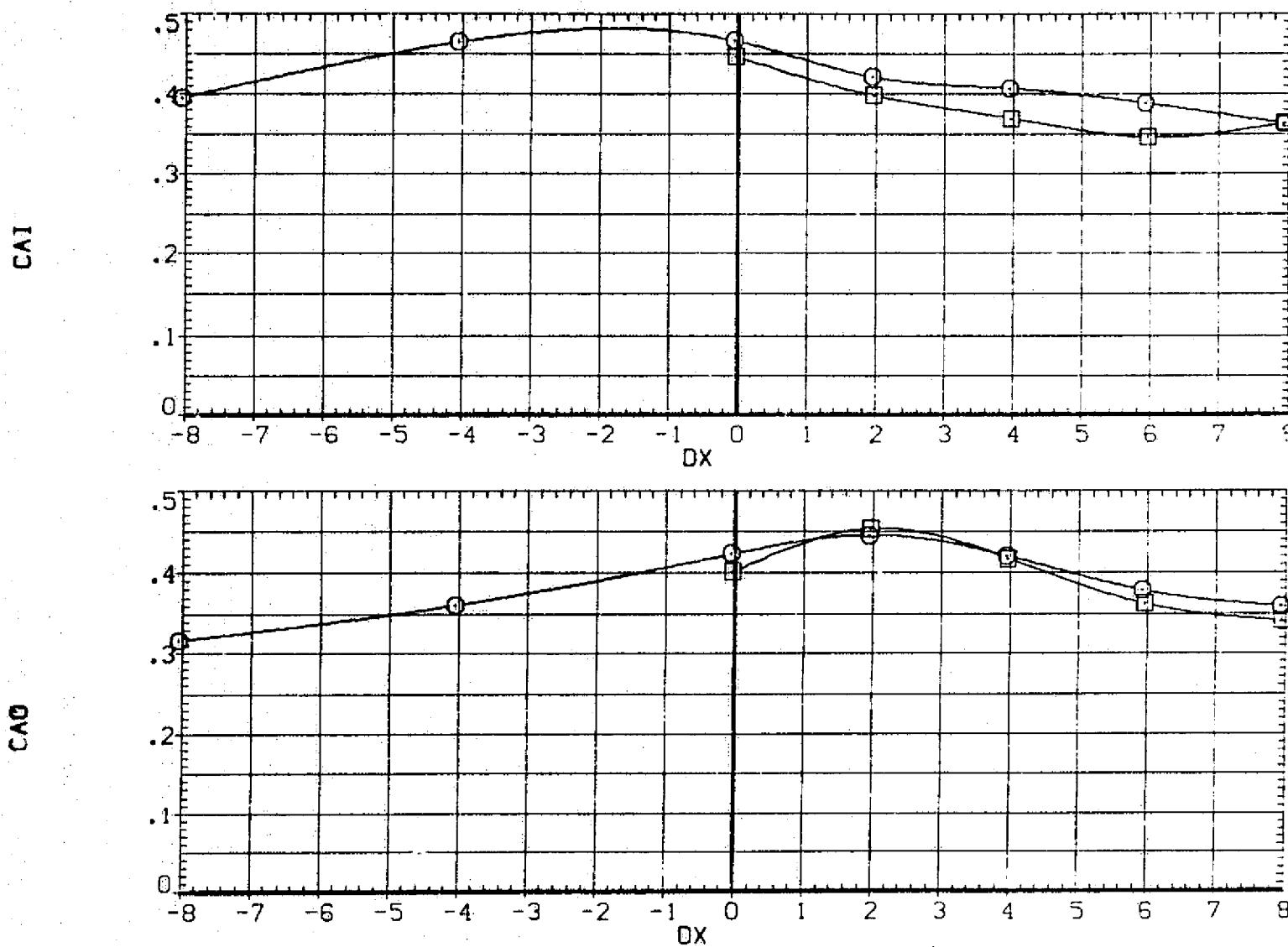


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

EDDMACH = 1.15

PAGE 39

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP011) O N2 N2
 (RAP014) □ N1 N1

X-INCH 2Y1/B 2Y0/B
 40,000 .250 .550
 40,000 .250 .550

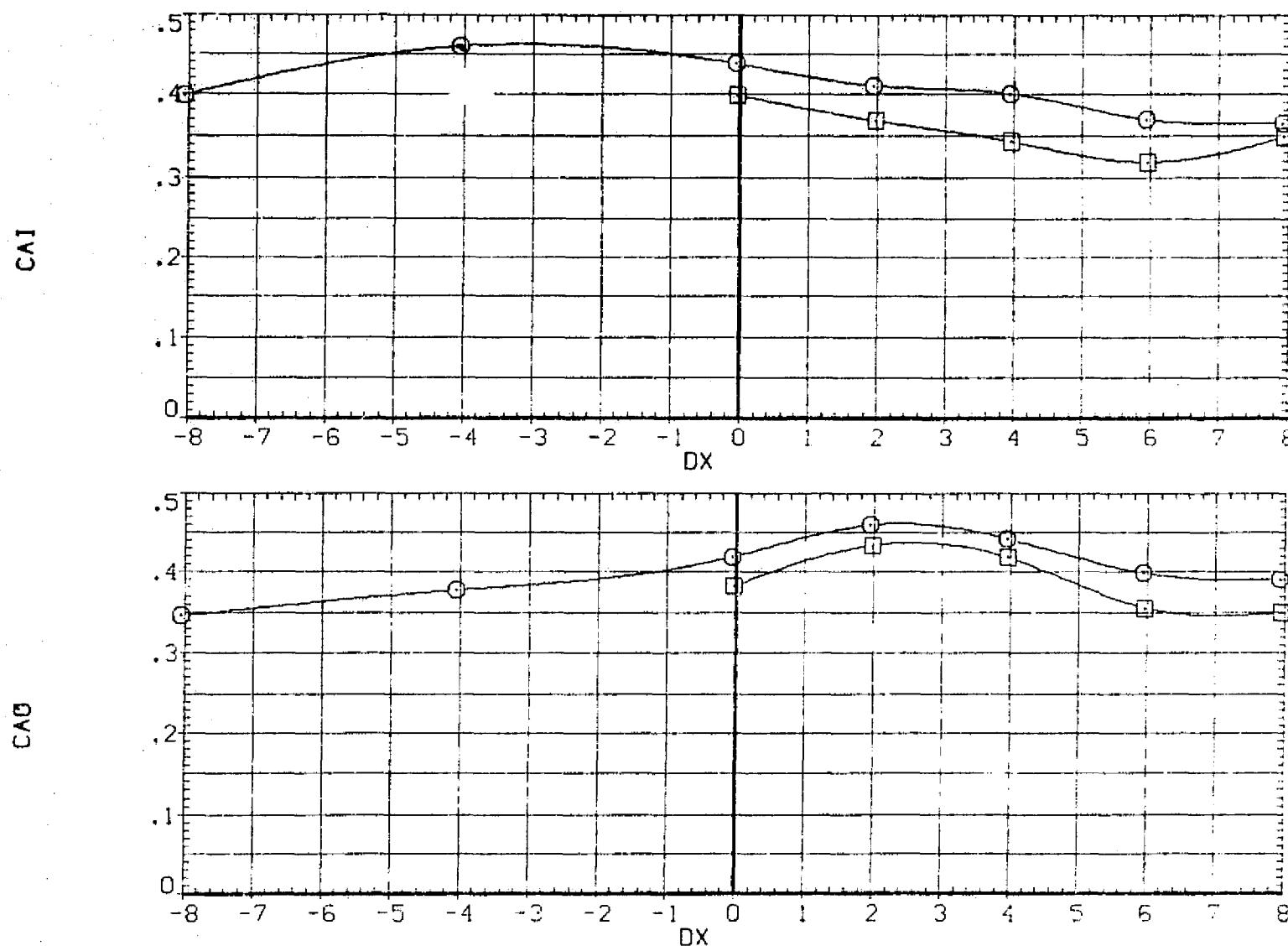


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(E)MACH = 1.20

PAGE 40

DATA SET SYMBOL CONFIGURATION DESCRIPTION
[ZAP011] \bigcirc N2 N2
[ZAP014] \square N1 N1

X-INBD 2Y/2 2Y/8
40.000 .250 .550
40.000 .250 .550

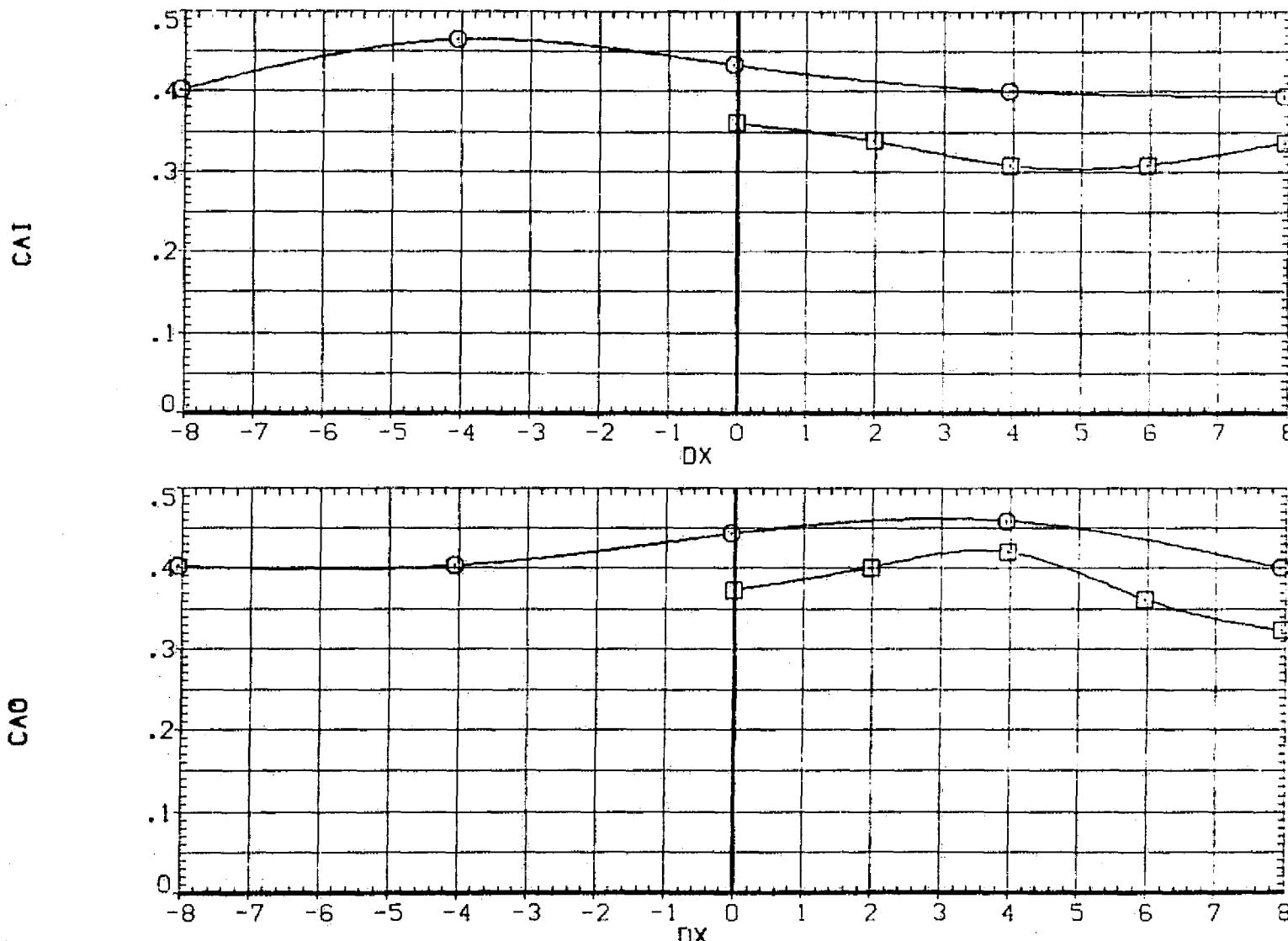


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(F0)MACH = 1.30

PAGE 41

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP011) \bigcirc N2 N2
 (RAP014) \square N1 N1

X-INCH 2Y1/B 2Y0/B
 40.000 .250 .550
 40.000 .250 .550

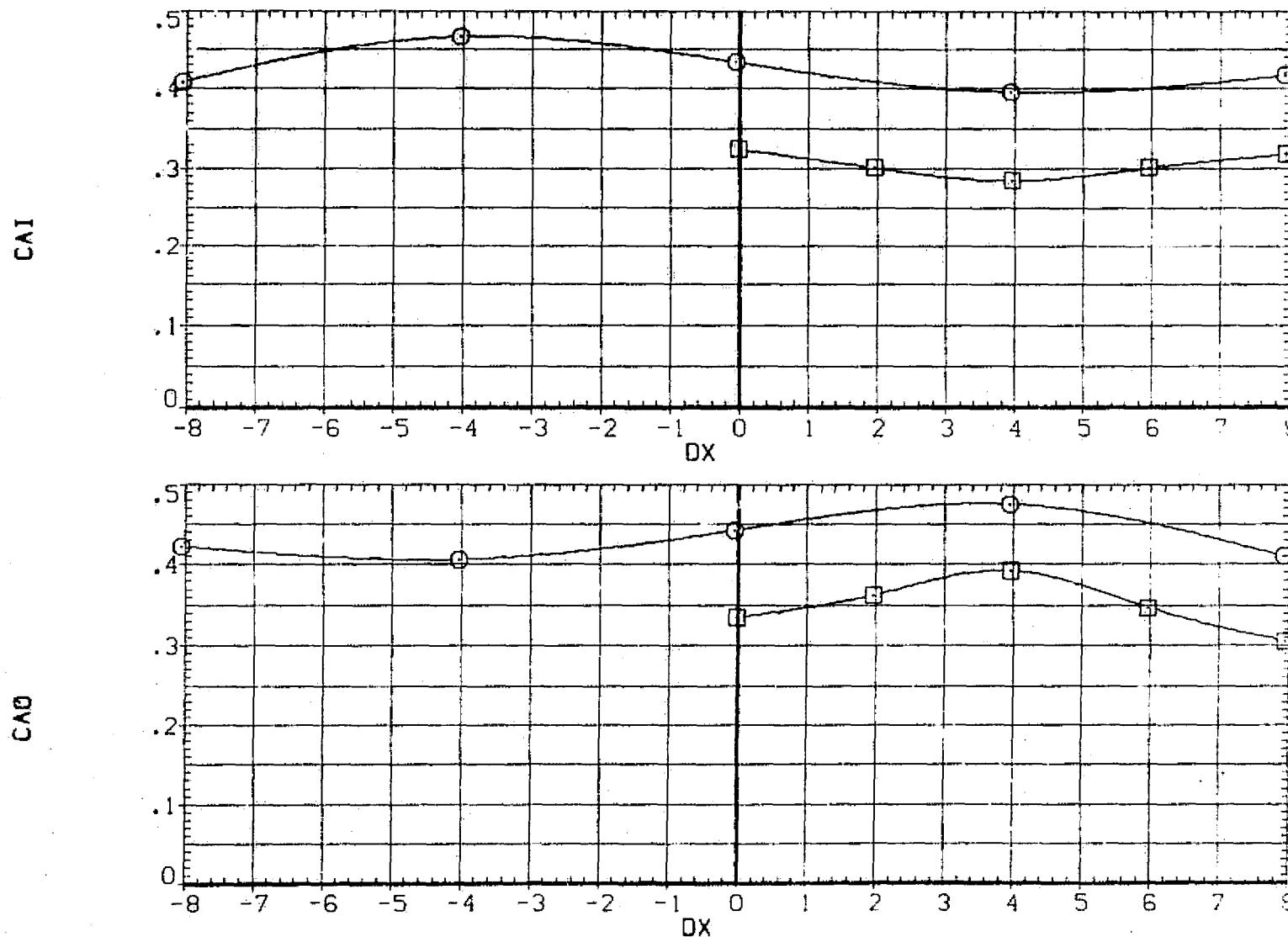


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(G)MACH = 1.40

PAGE 42

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP042) O NI NI
 (RAP015) □ NI NI
 (RAP016) ◇ NI NI

X-1NB0	2Y1/B	2Y0/B
40,000	.250	.550
40,000	.230	.600
40,000	.300	.500

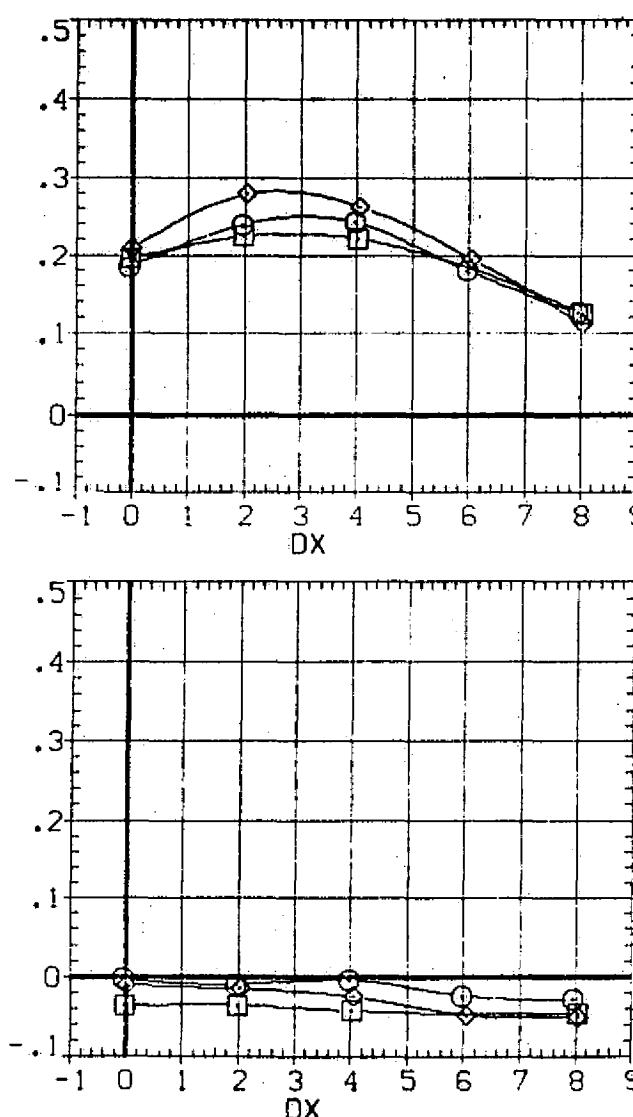
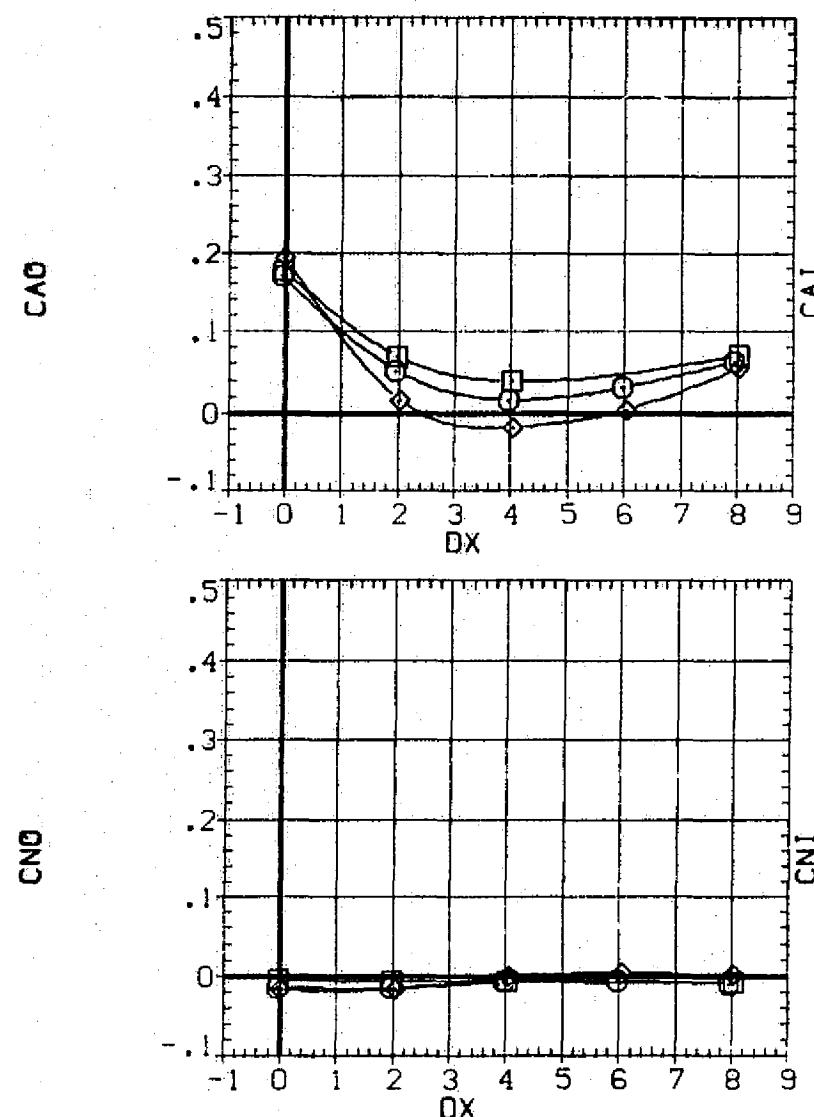


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

CAIMACH = .98

PAGE 43

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP042)	○	NI NI
(RAP015)	□	NI NI
(RAP016)	◇	NI NI

X-IN80 2Y1/B 2Y0/B

40,000	.250	.550
40,000	.230	.600
40,000	.300	.500

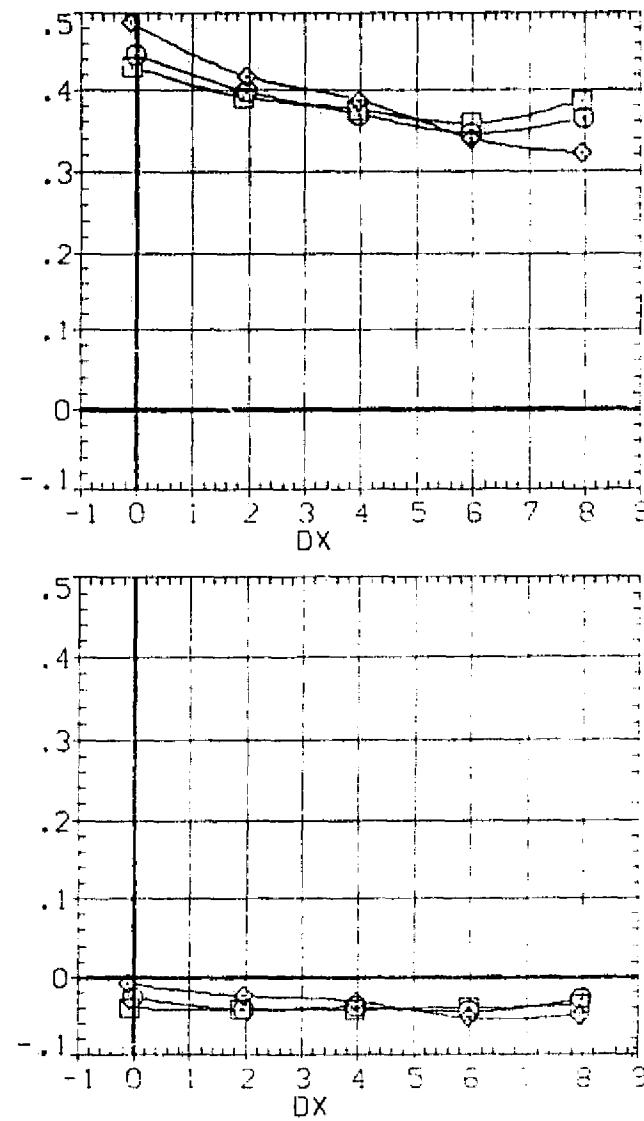
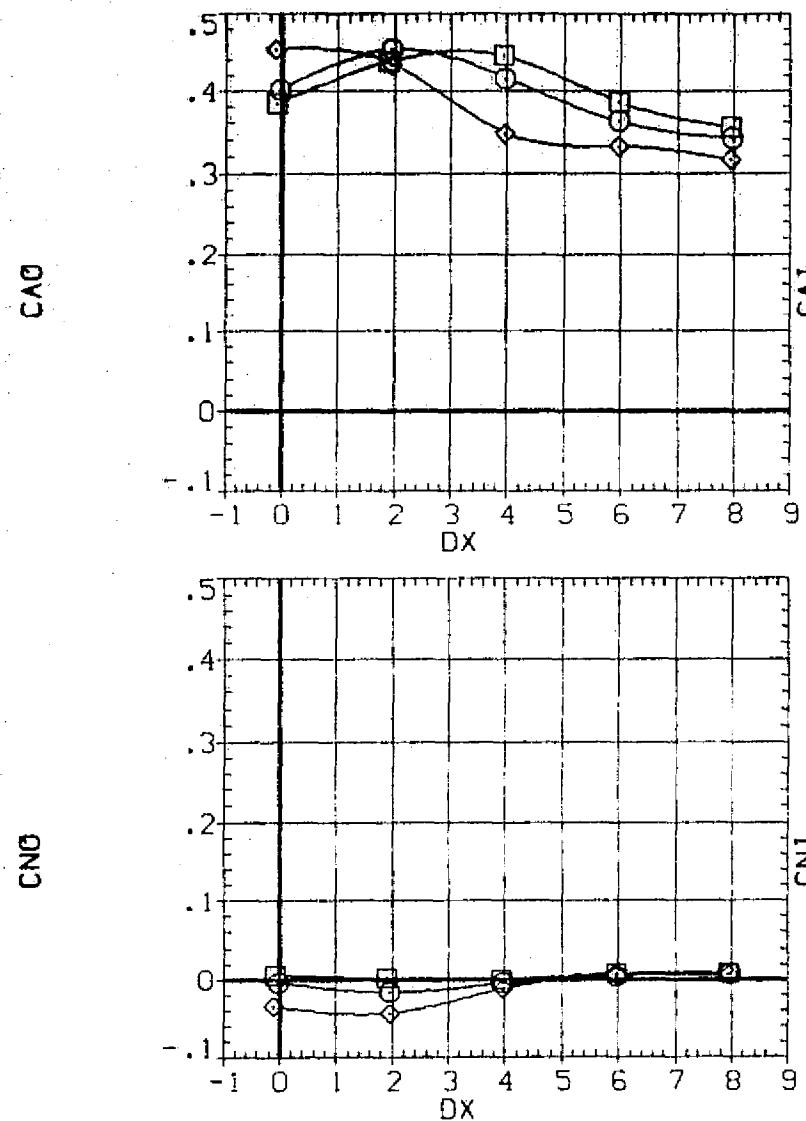


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(B)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPD42) NI NI

(RAPD15) NI NI

(RAPD16) NI NI

X-INBD ZY1/B ZY0/B

40,000 .250 .550

40,000 .230 .600

40,000 .300 .500

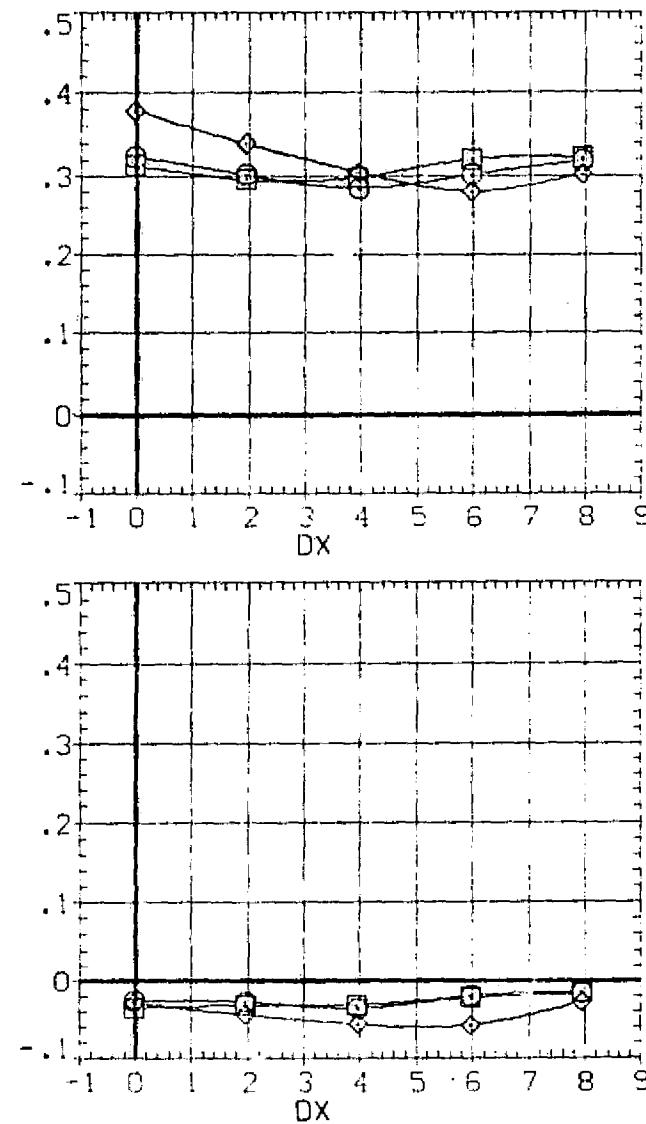
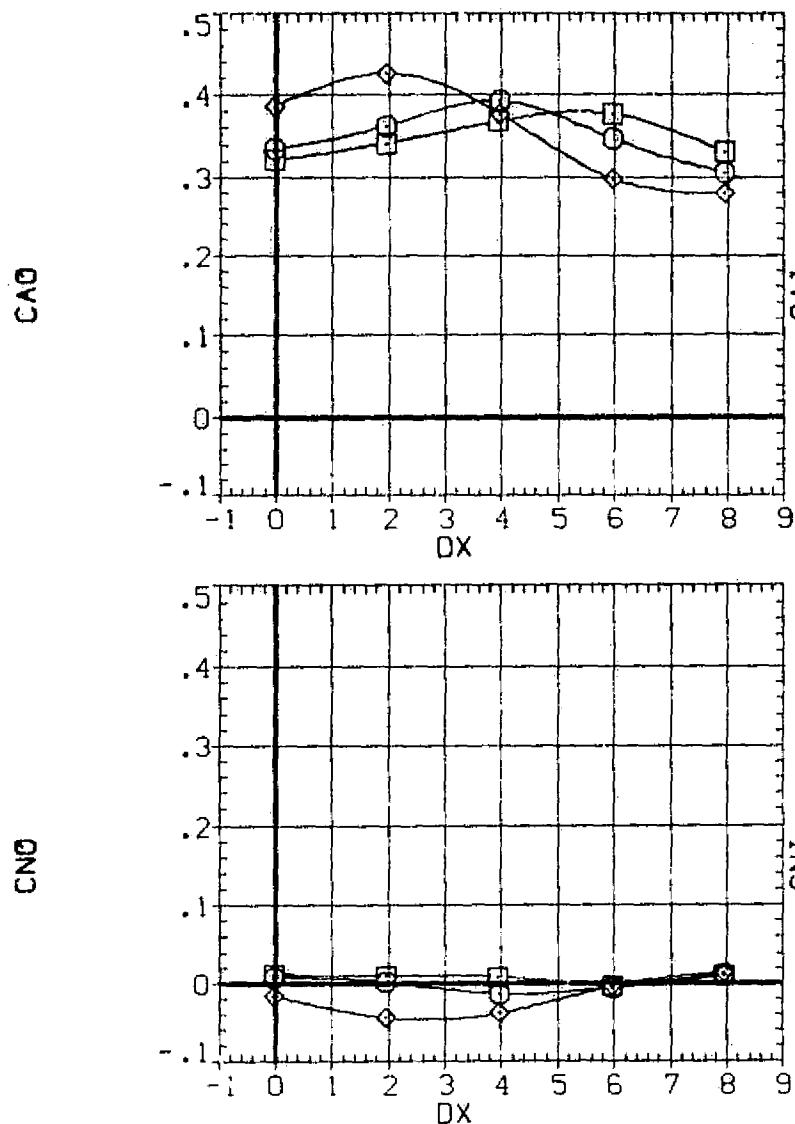


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(COMACH = 1.40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP042)	○	NI NI
(RAP015)	□	NI NI
(RAP016)	◇	NI NI

X-INBD	2Y1/8	2Y0/8
40,000	.250	.550
40,000	.230	.600
40,000	.300	.500

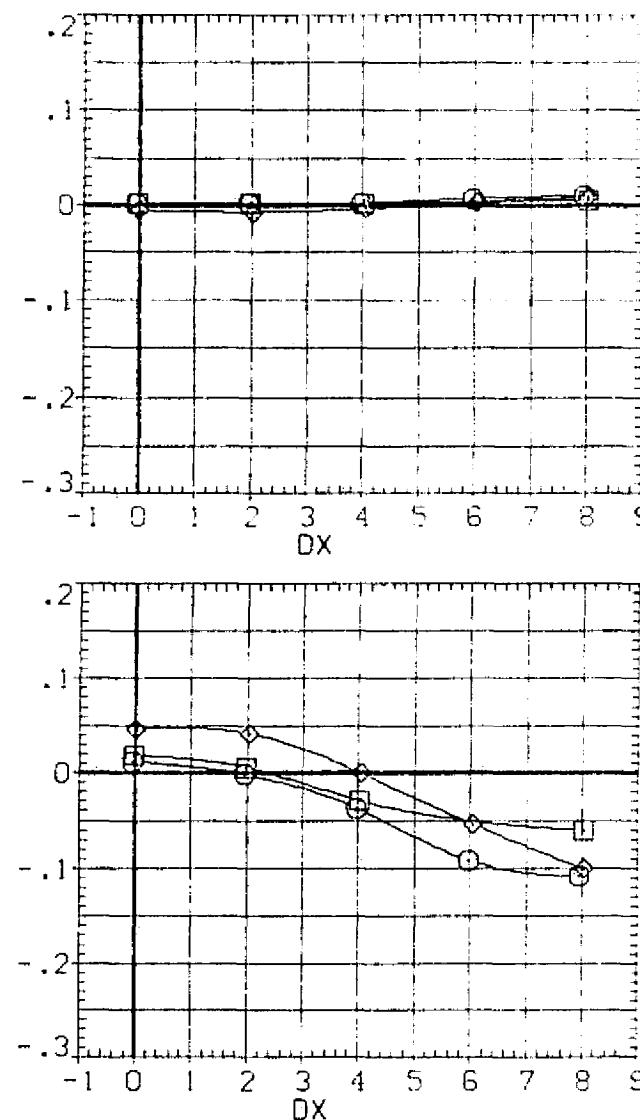
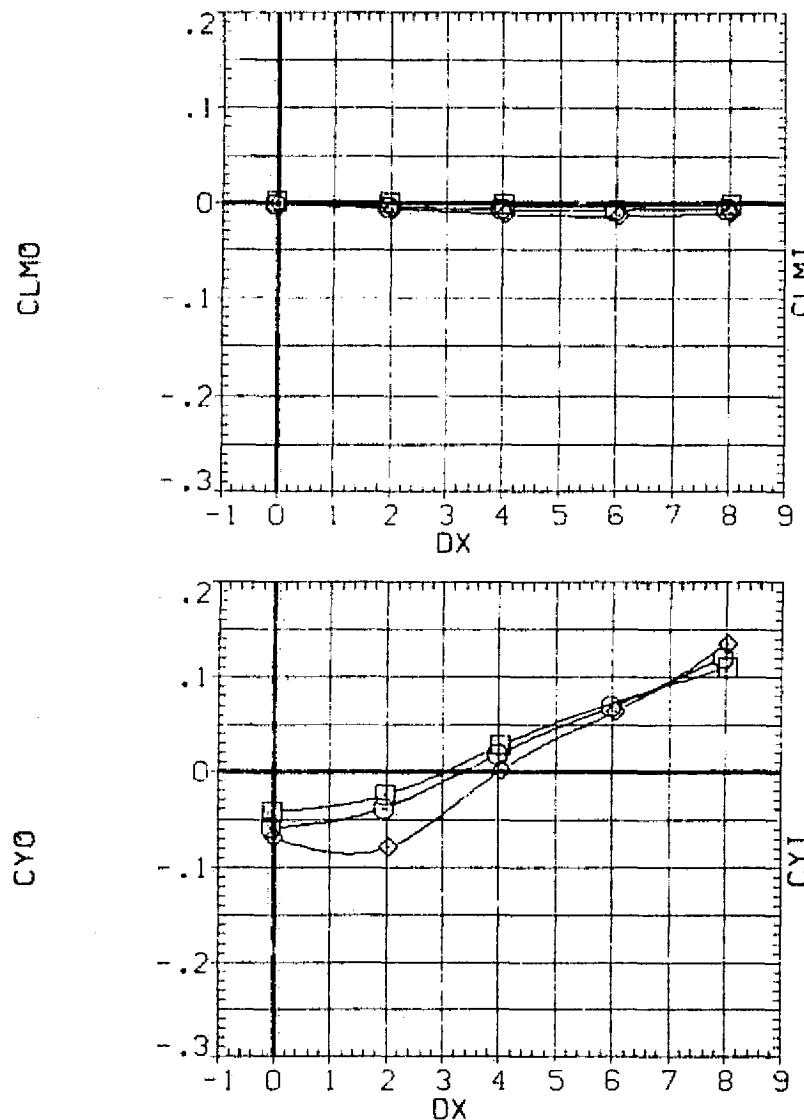


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(A)MACH = .96

PAGE 46

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP042)  NI NI

(RAP015)  NI NI

(RAP016)  NI NI

X-IN80 2Y1/8 2Y0.8

X-IN80	2Y1/8	2Y0.8
40,000	.250	.550
40,000	.290	.600
40,000	.300	.500

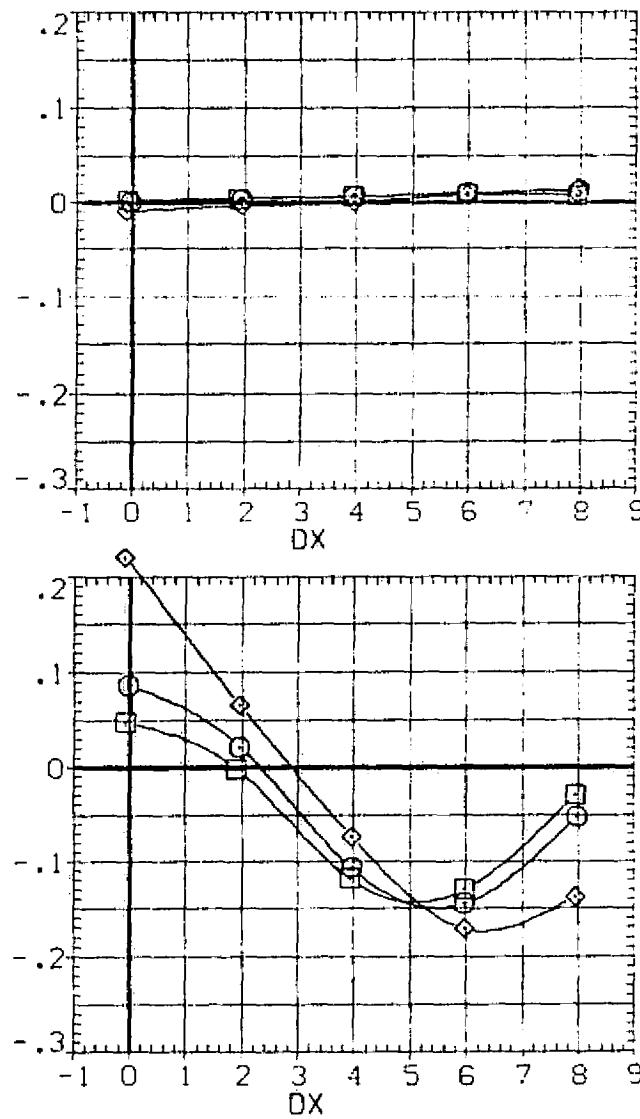
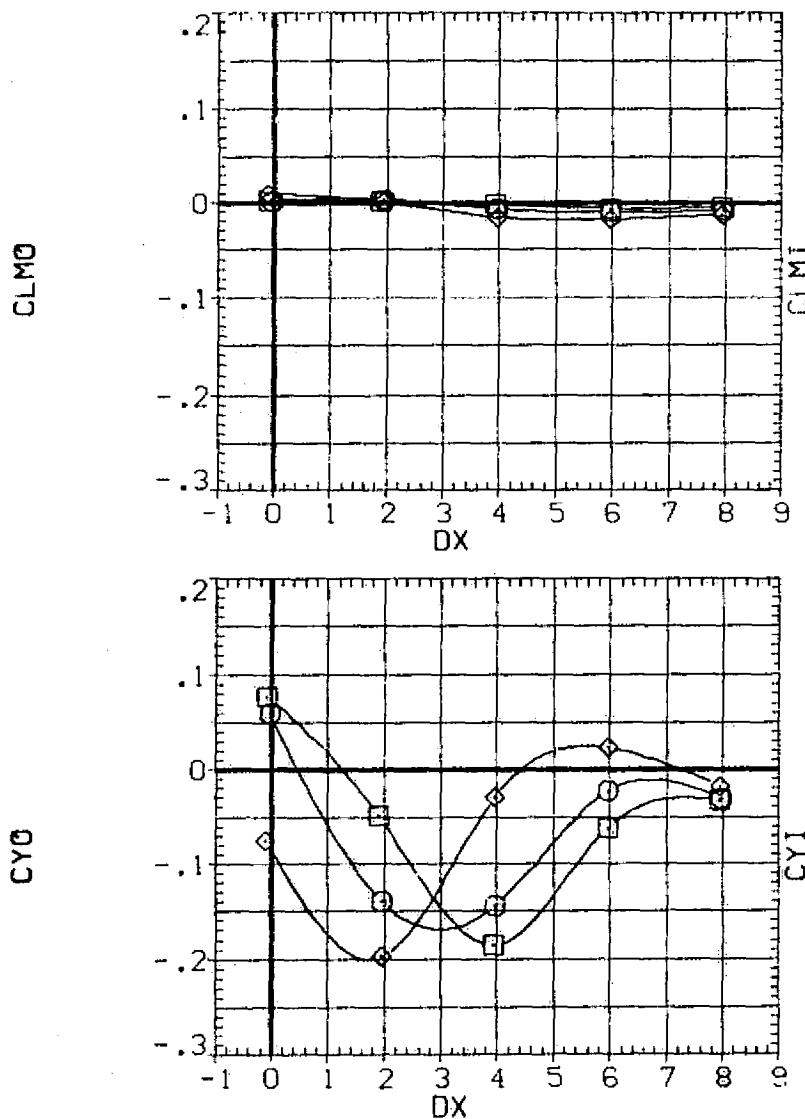


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(B)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP042)  NI NI

(RAP015)  NI NI

(RAP016)  NI NI

X-1NBD	ZY1/B	ZY0/B
40.000	.250	.550
40.000	.200	.600
40.000	.300	.500

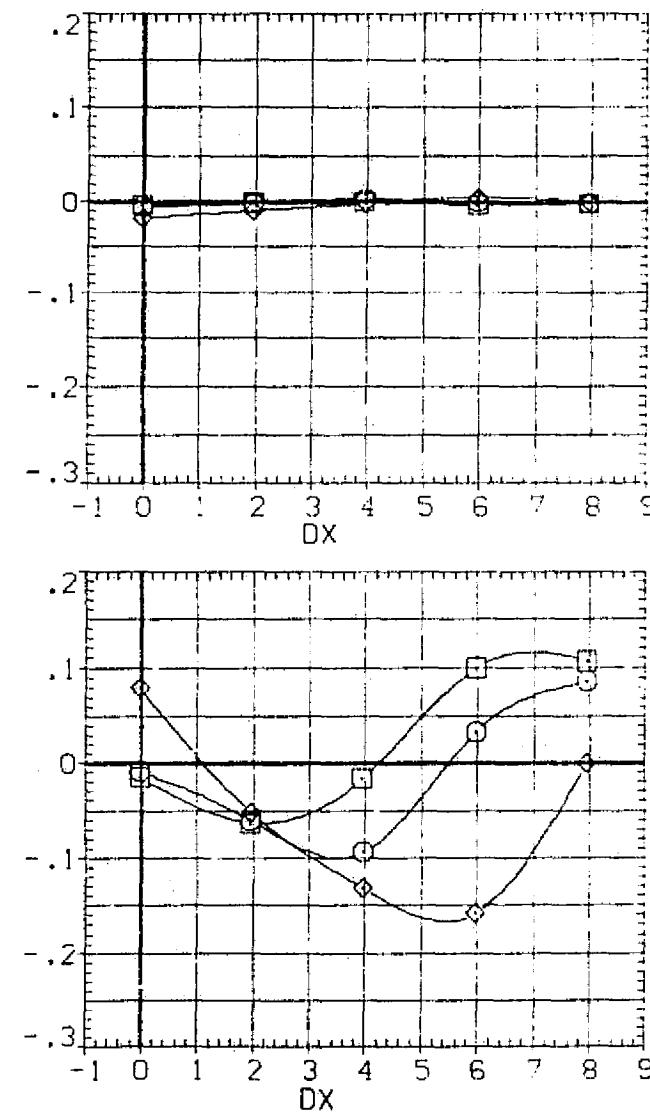
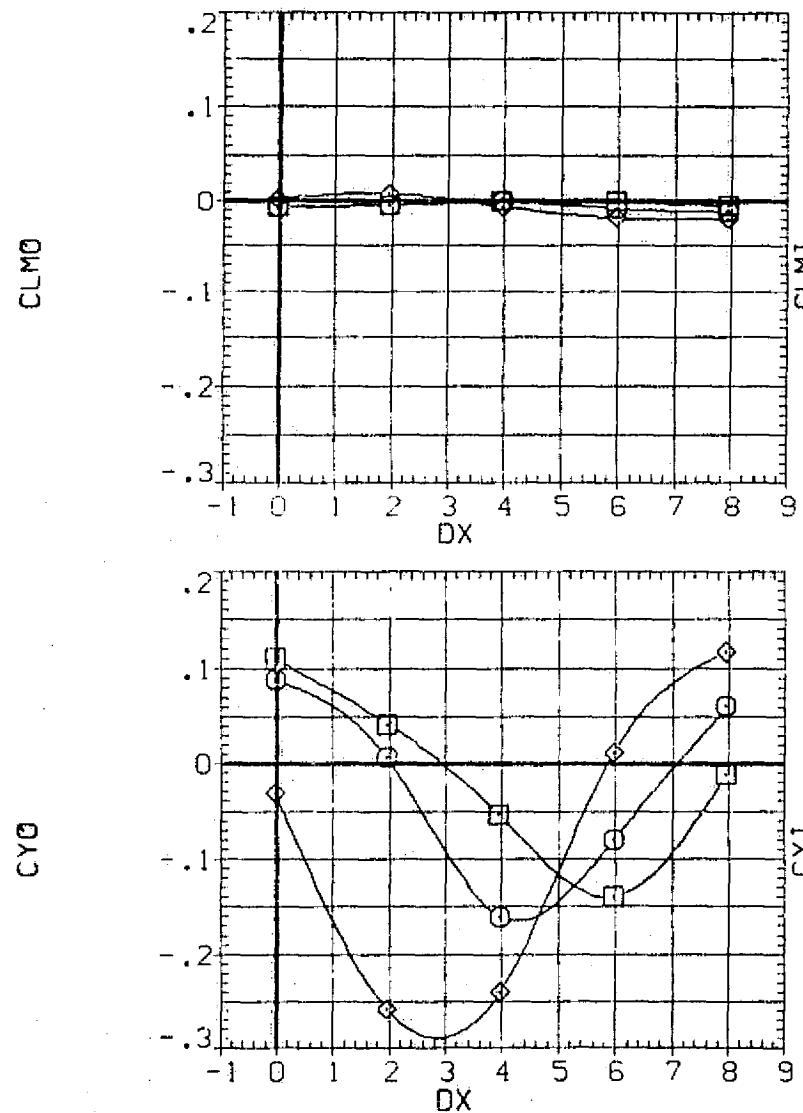


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

(C)MACH = 1.40

DATA SET SYMBOL - CONFIGURATION DESCRIPTION
 (RAPO42) O NI NI
 (RAPO15) □ NI NI
 (RAPO16) ◇ NI NI

X- INBD 2Y1/B 2Y3/B
 40.000 .250 .550
 40.000 .230 .600
 40.000 .300 .500

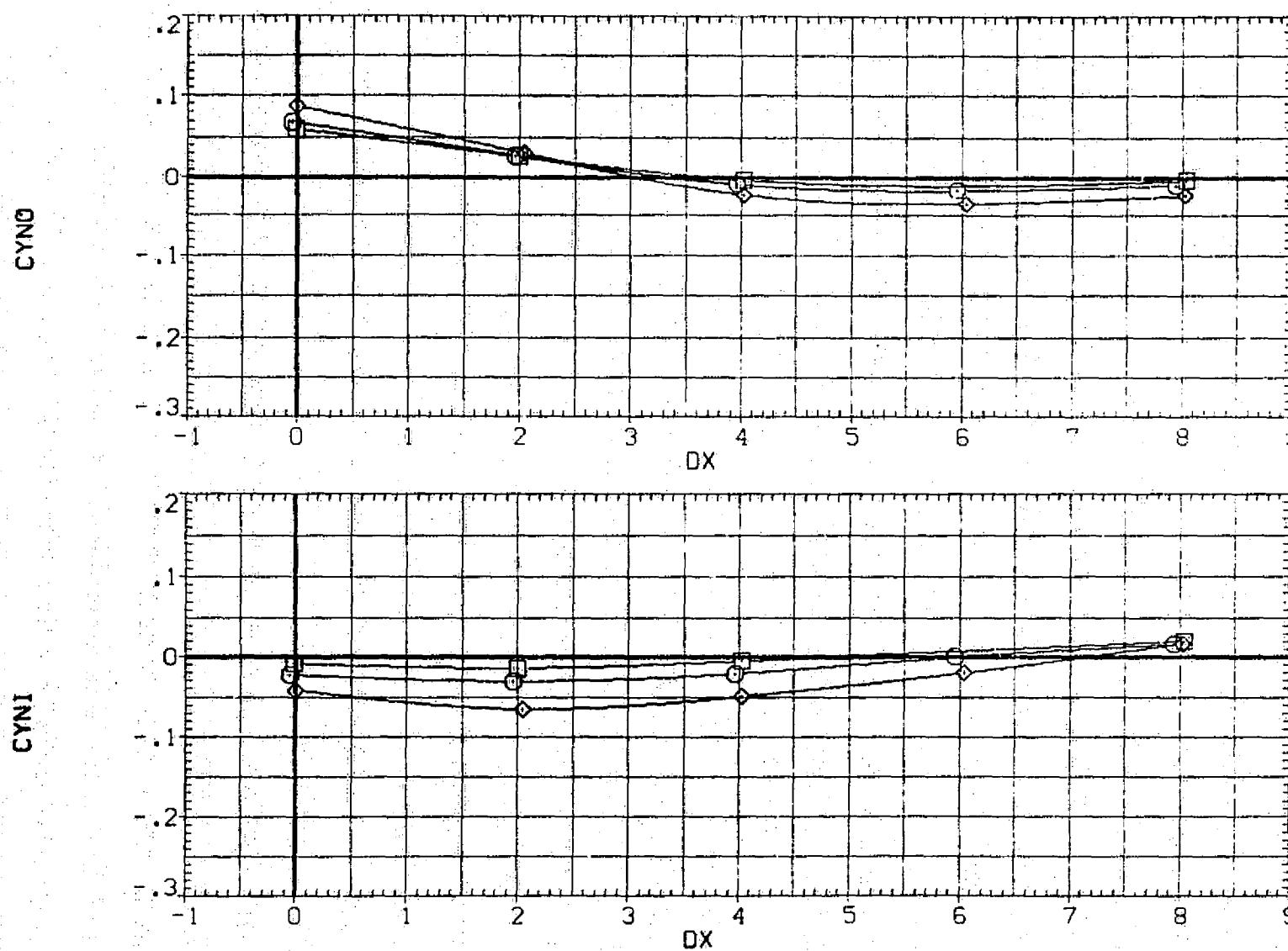


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

CADMACH = .98

PAGE 49

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPO42)	○	NI NI
(RAPO15)	□	NI NI
(RAPO16)	◇	NI NI

X-INBD	2Y1/8	2Y0/8
40.000	.250	.550
40.000	.230	.600
40.000	.300	.500

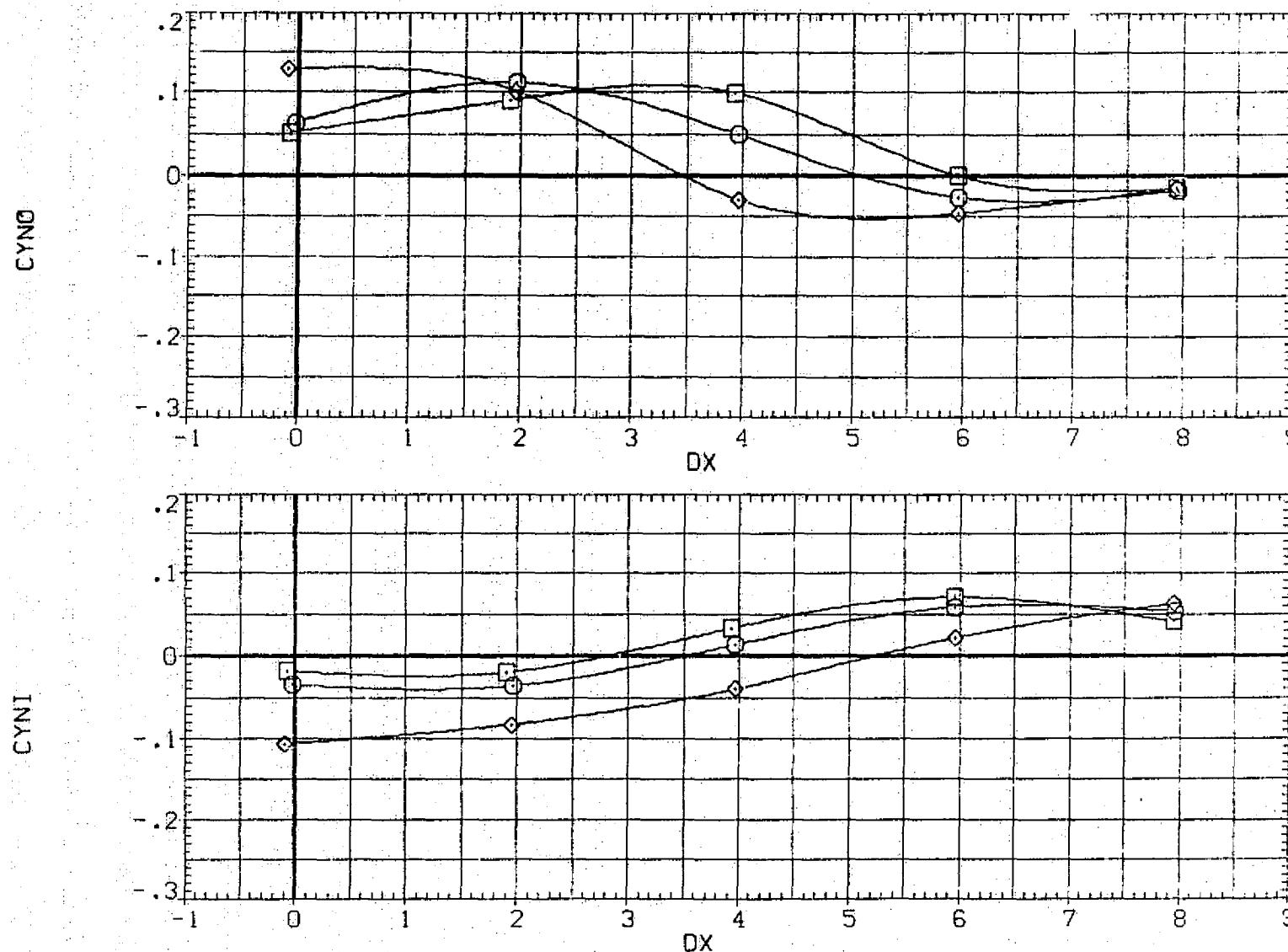


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

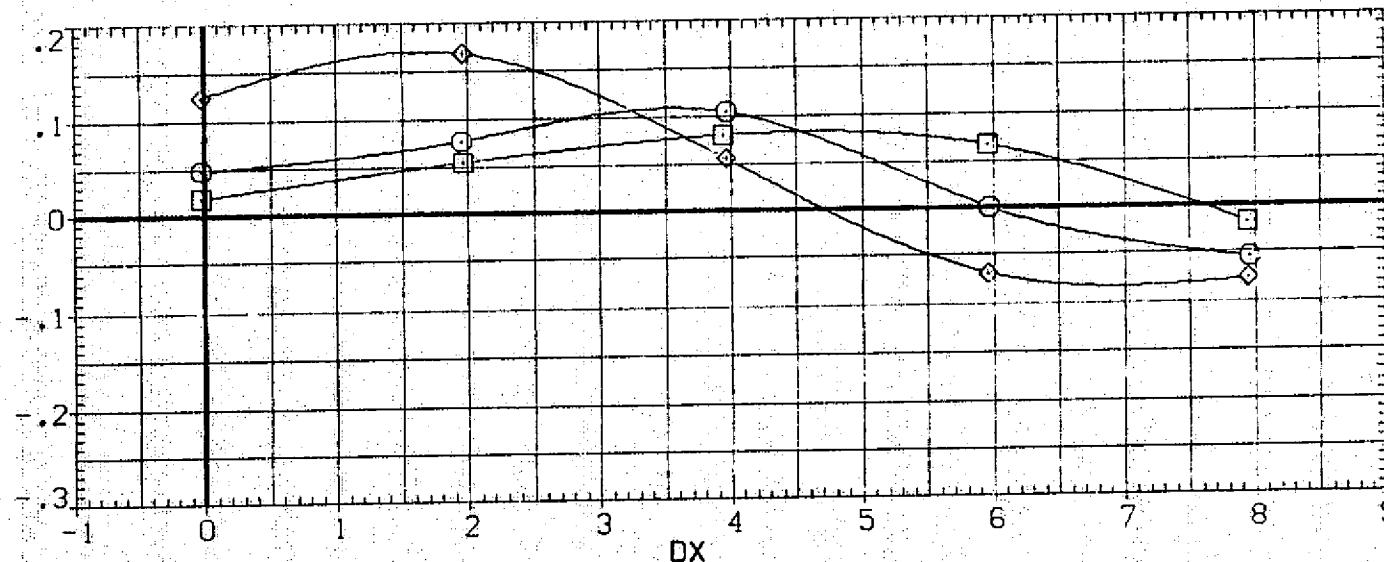
OBJMACH = 1.15

PAGE 50

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAPO42) O NI NI
 (RAPO15) □ NI NI
 (RAPO16) X NI NI

X-INBD 2Y1/8 2Y0/8
 40.000 .250 .560
 40.000 .230 .600
 40.000 .300 .500

CYNG



CYNI

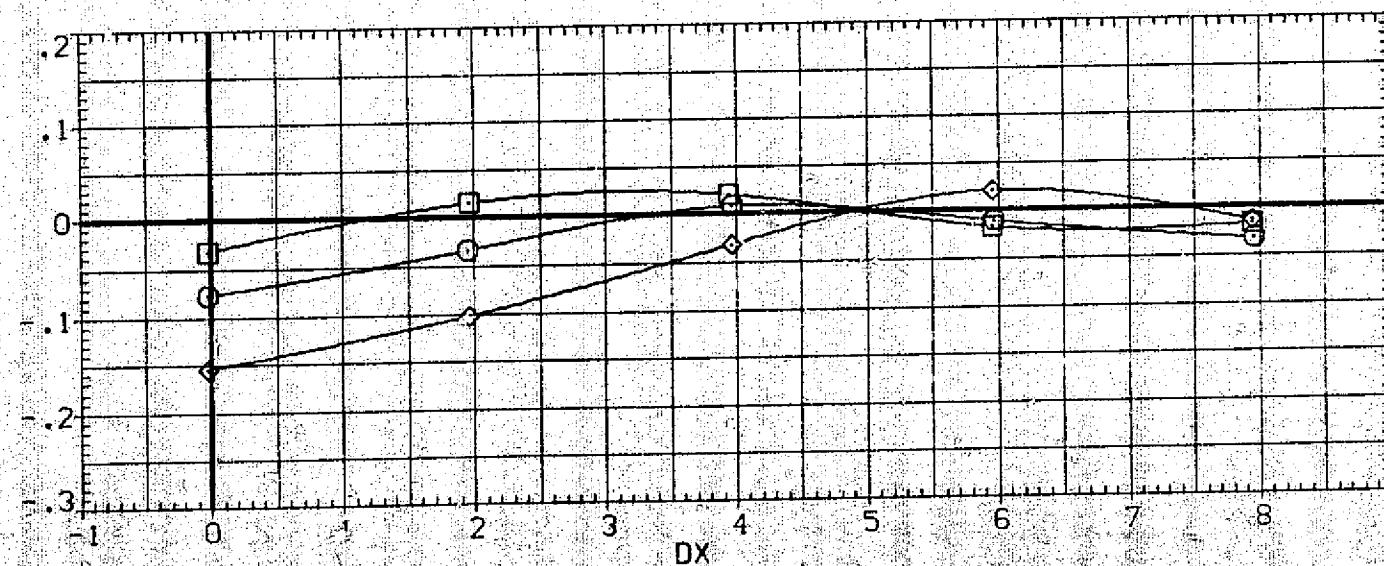


FIG. 8 EFFECTS OF NACELLE POSITION ON NACELLE FORCES.

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAPO12) N2 N2
 (RAPO18) N1 N1

X-INBO 2Y1/B 2Y0/B DX
 40.000 .250 .550 8.000
 40.000 .250 .550 8.000

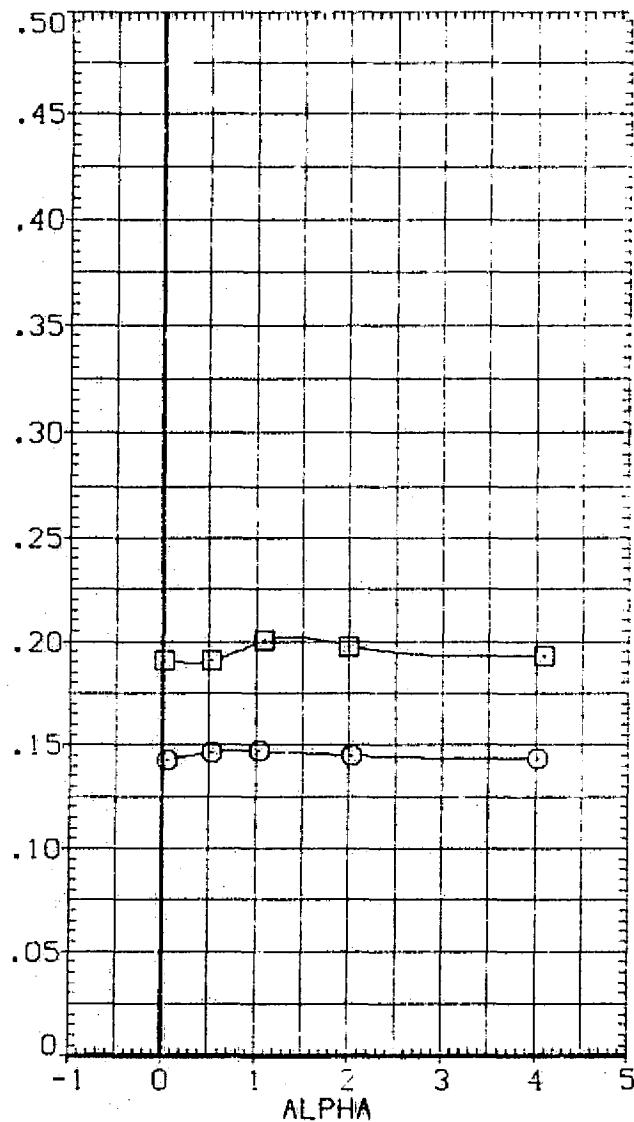
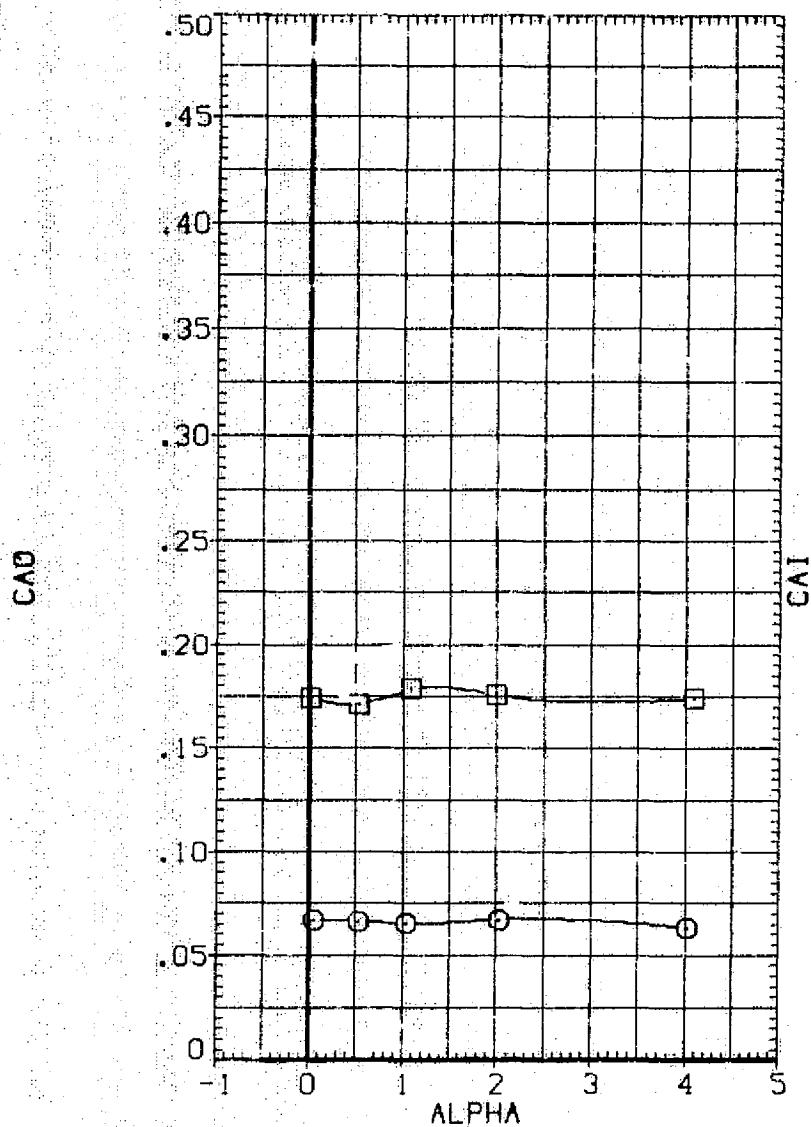


FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

CADMACH = .98

PAGE 52

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP012)  N2 N2
 (RAP018)  N1 N1

X-INBD 2Y1/B 2Y0/B DX
 40.000 .250 .550 8.000
 40.000 .250 .550 8.000

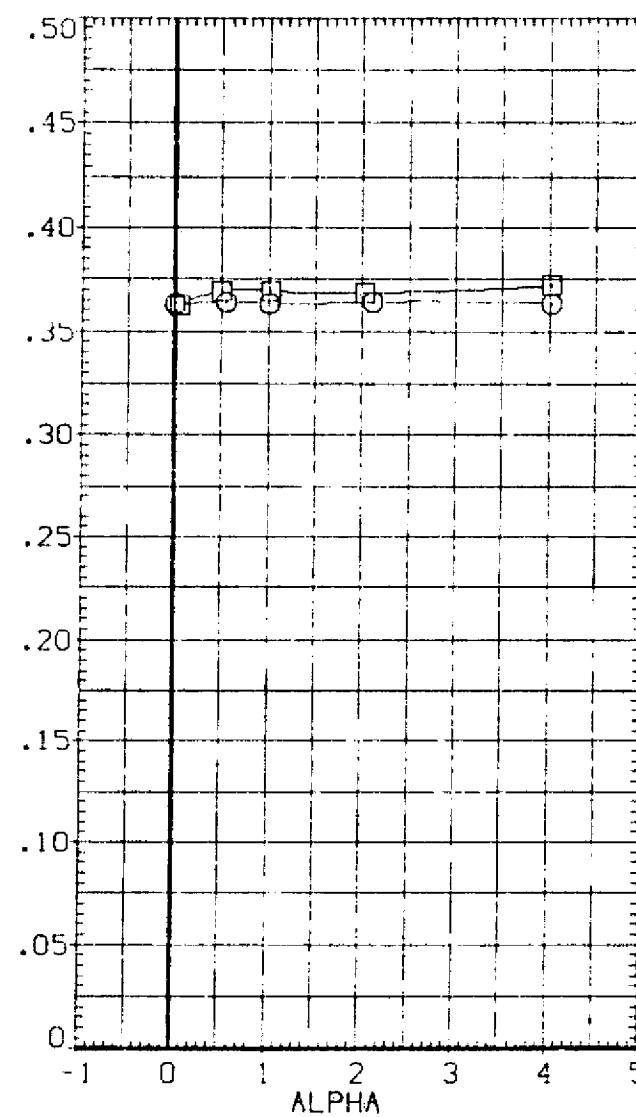
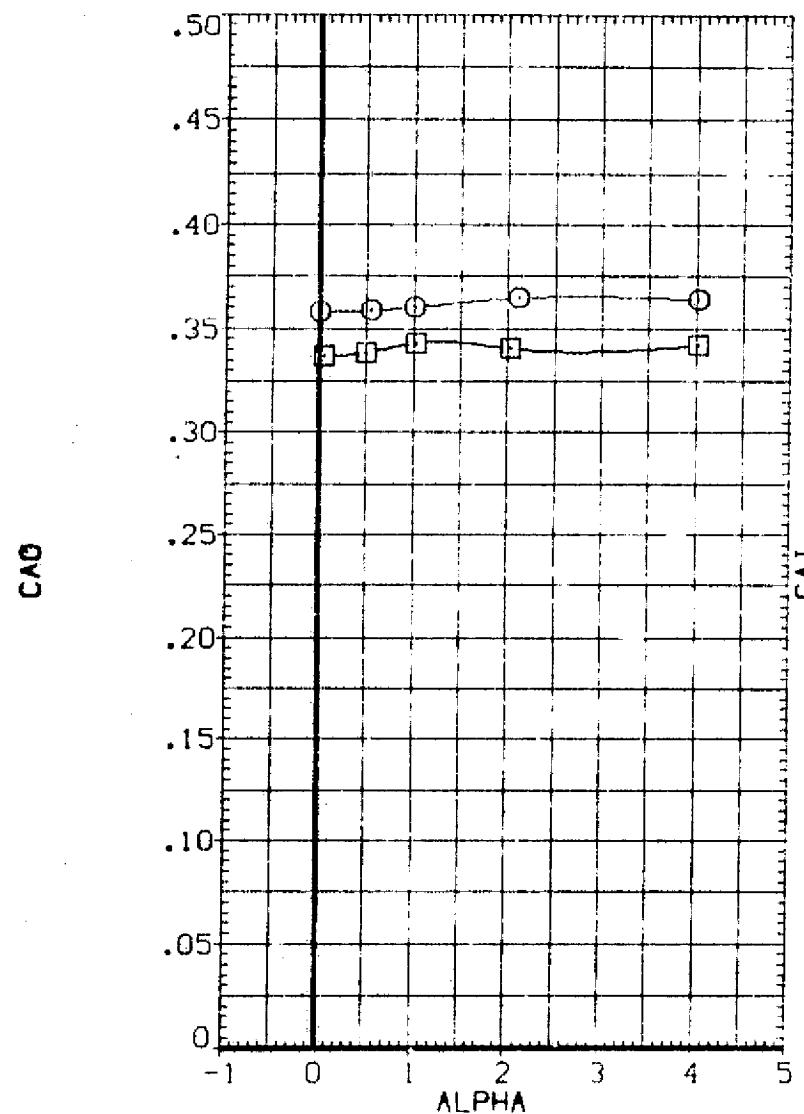


FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

(B)MACH = 1.15

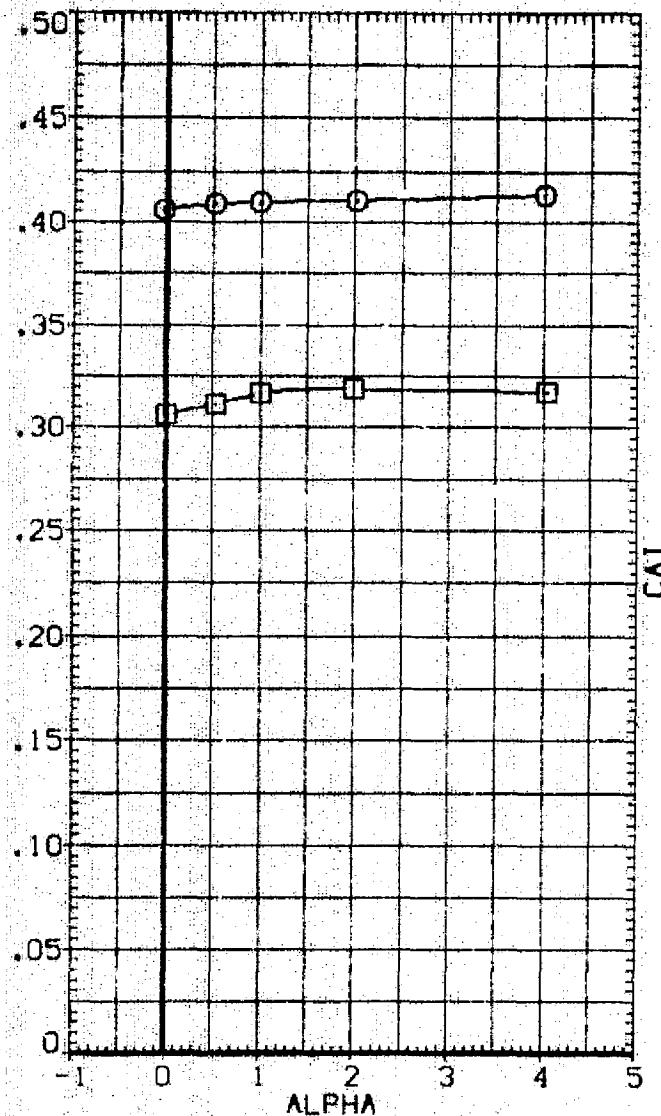
DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP012) N2 N2
(RAP018) N1 N1

X-INCH 2Y1/8 2Y0.8 DX

40,000 .250 .550 8,000
40,000 .250 .540 8,000

CAD



CAI

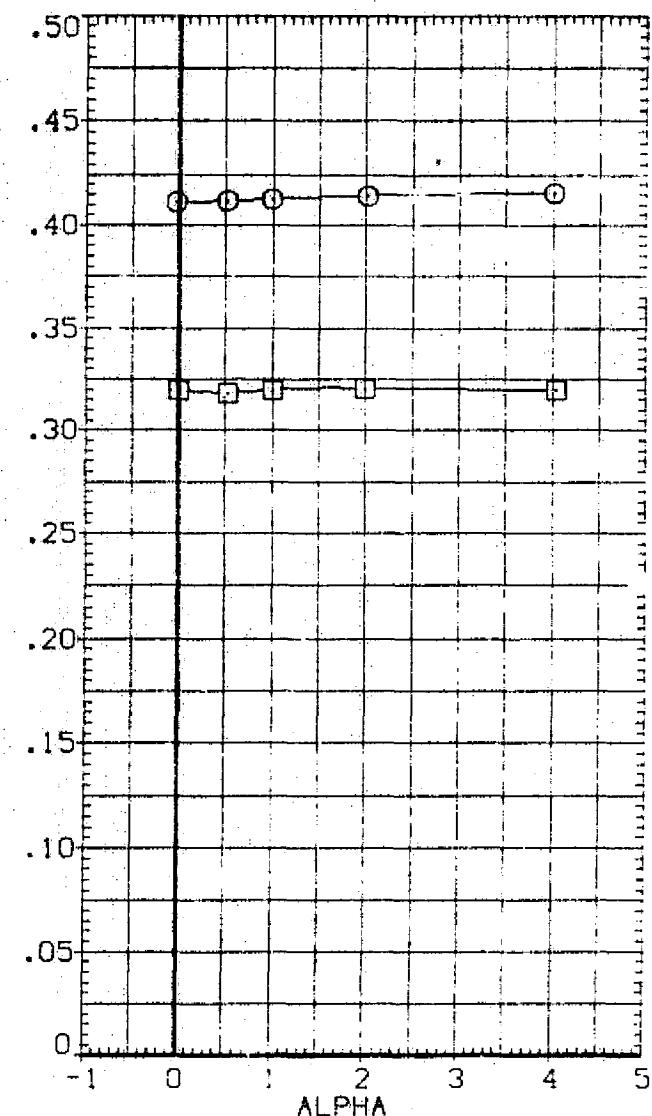


FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

(C)MACH = 1.40

PAGE 54

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAPD12) N2 N2
 (RAPD18) N1 N1

X-INBD 2Y1/B 2Y0/B DX
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

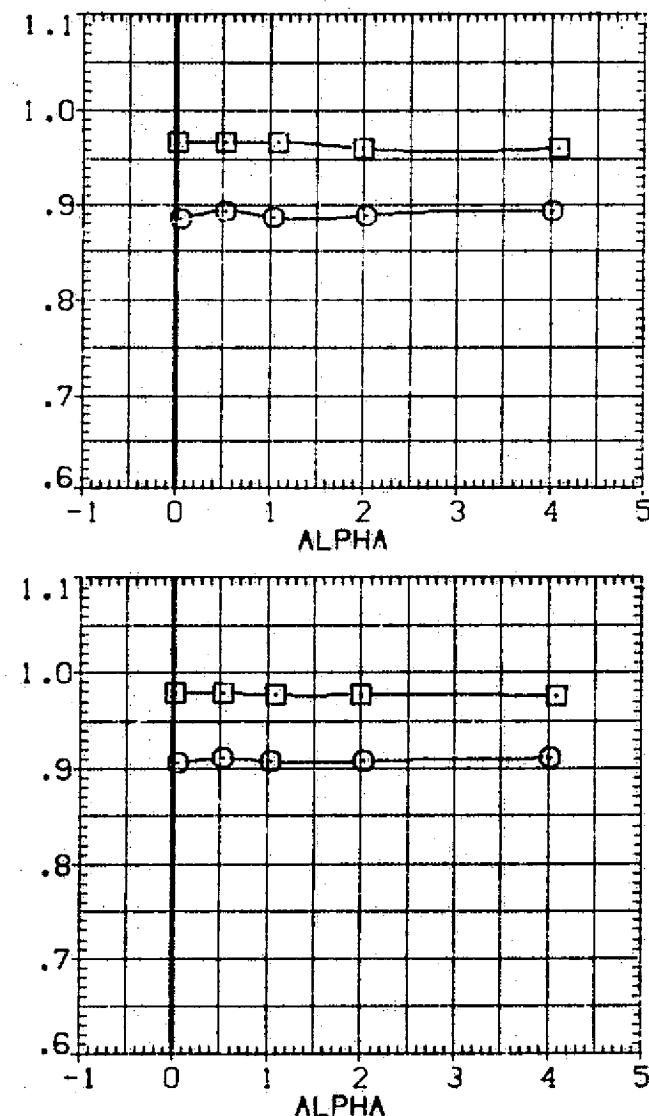
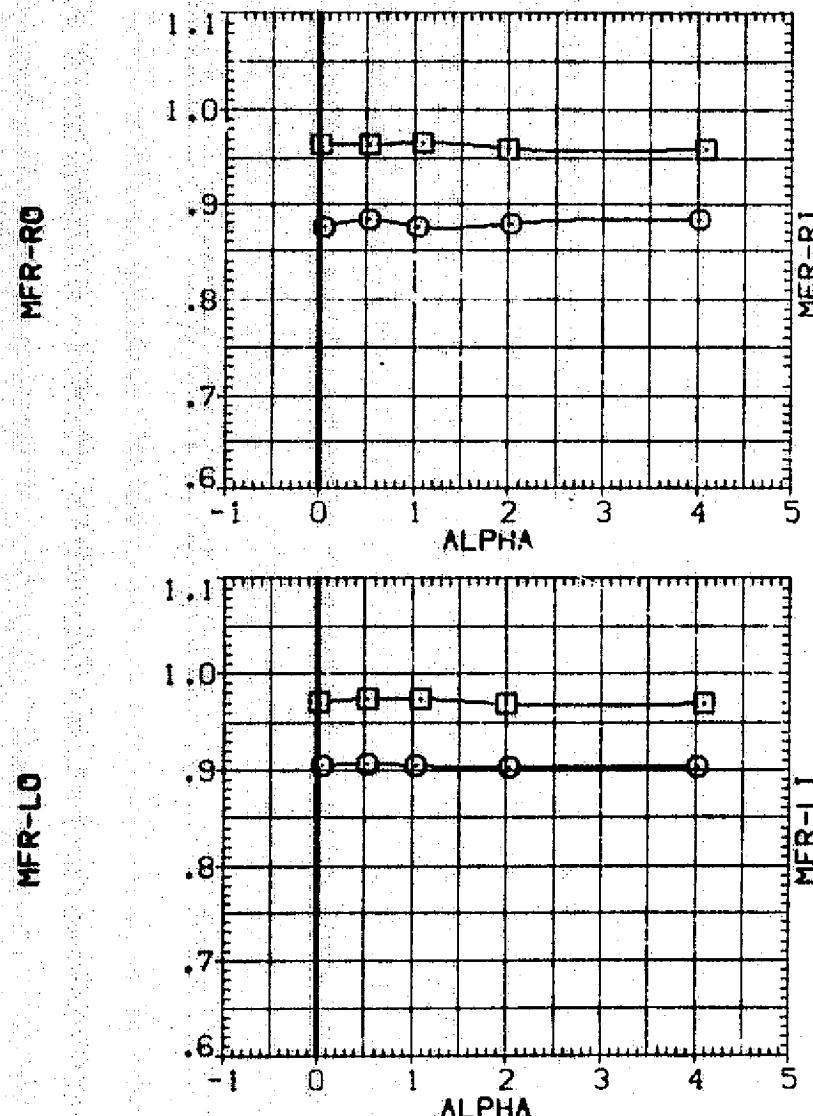


FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

(A)MACH = .98

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP012) N2 N2
 (RAP018) N1 N1

X-INBD 2Y1/E 2Y0/B GY
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

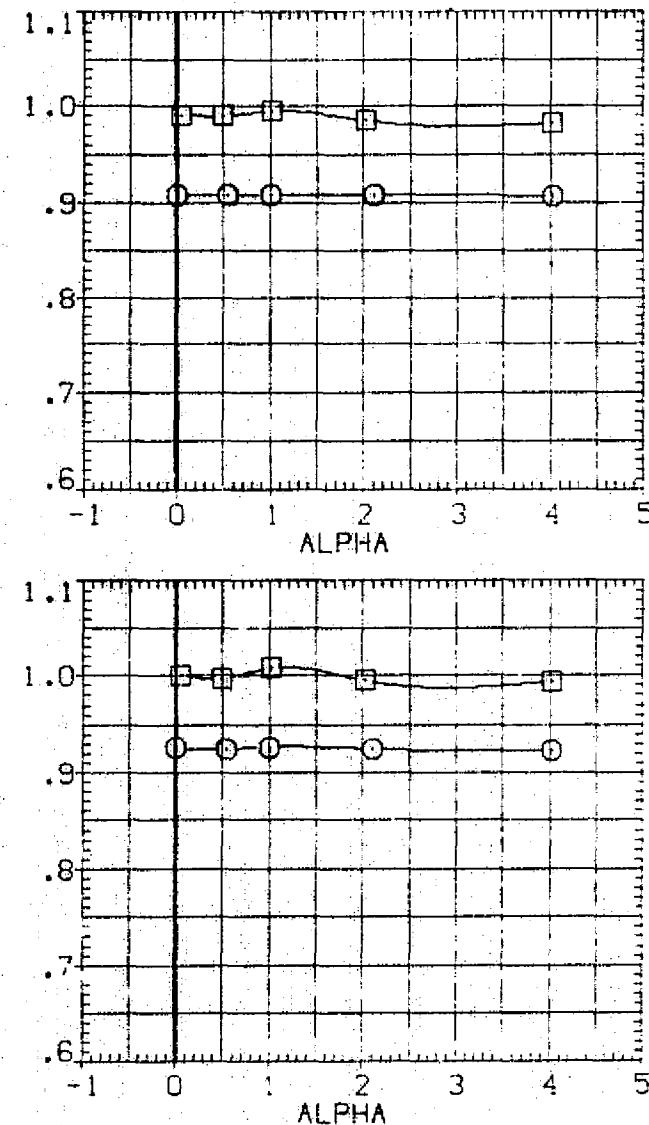
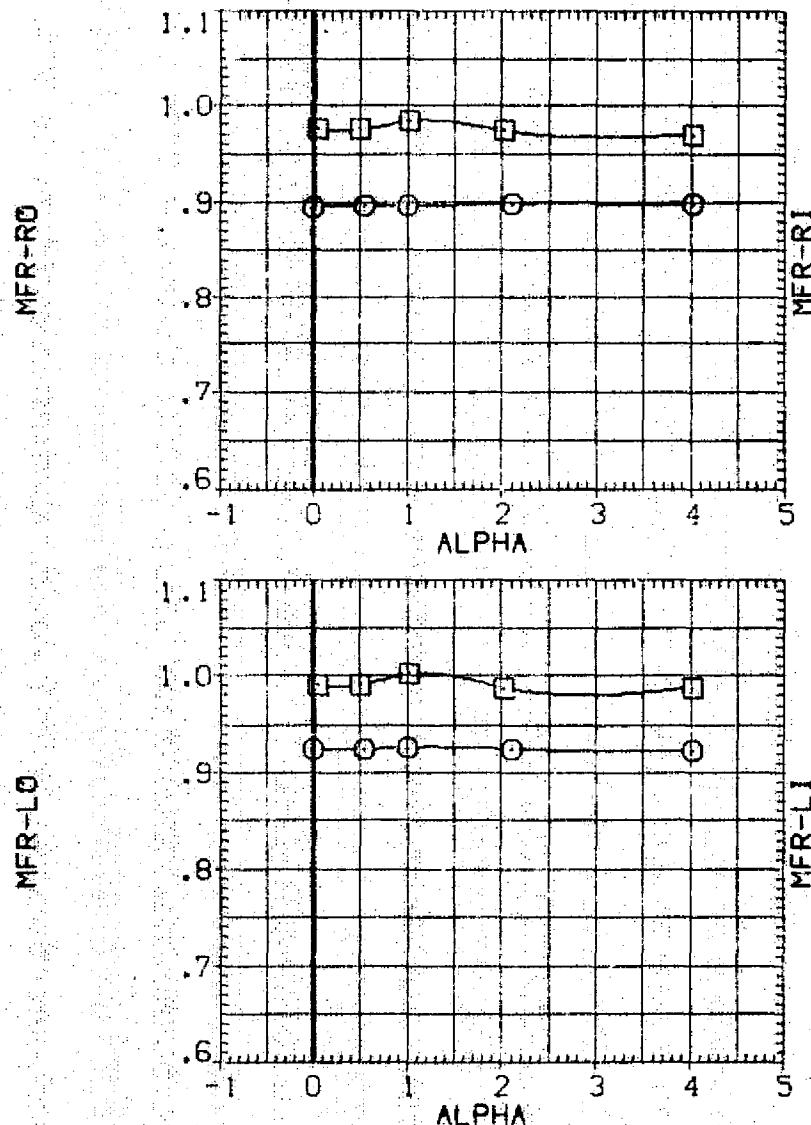


FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

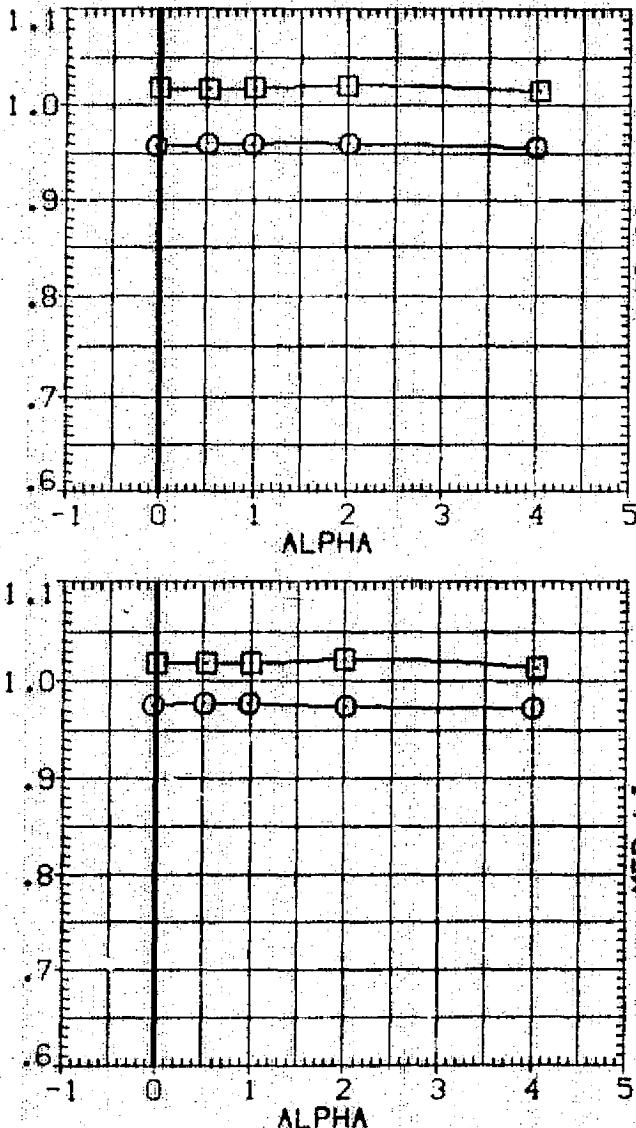
(BJ)MACH = 1.15

PAGE 56

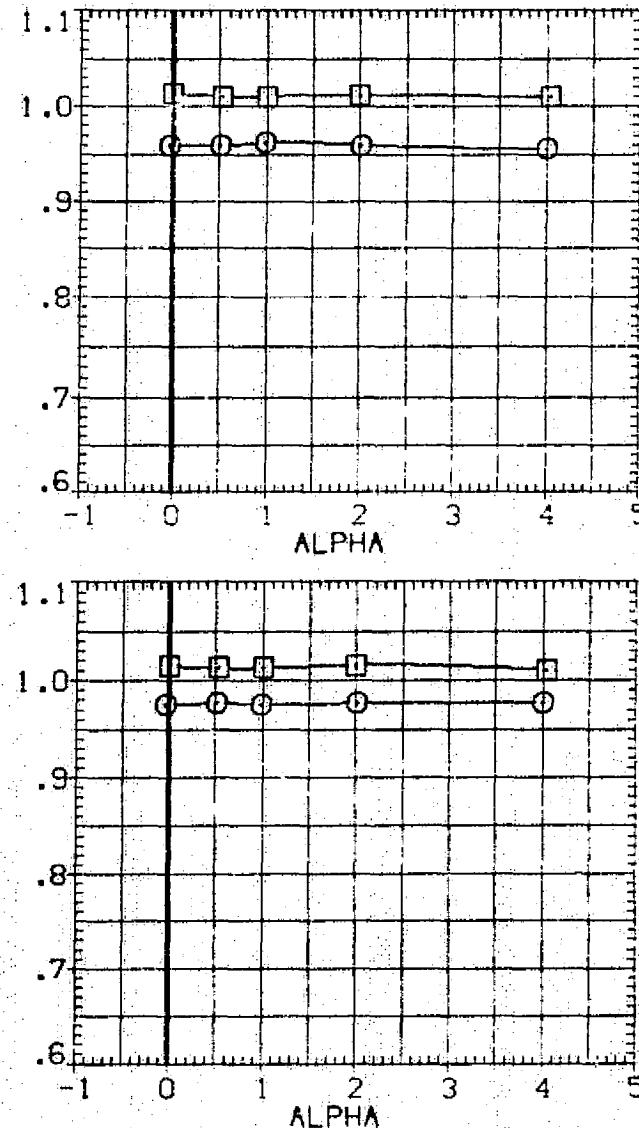
DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP012) N2 N2
 (RAP018) N1 N1

X-IN8D 2Y1/8 2Y0/8 Dx
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

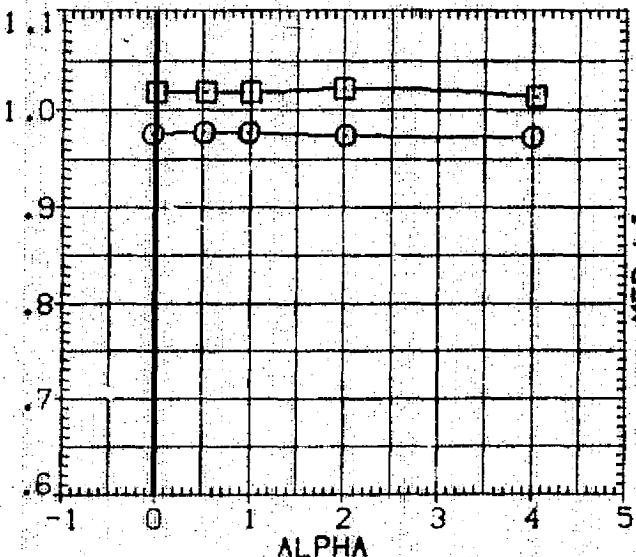
MFR-RC



MFR-RI



MFR-LD



MFR-LI

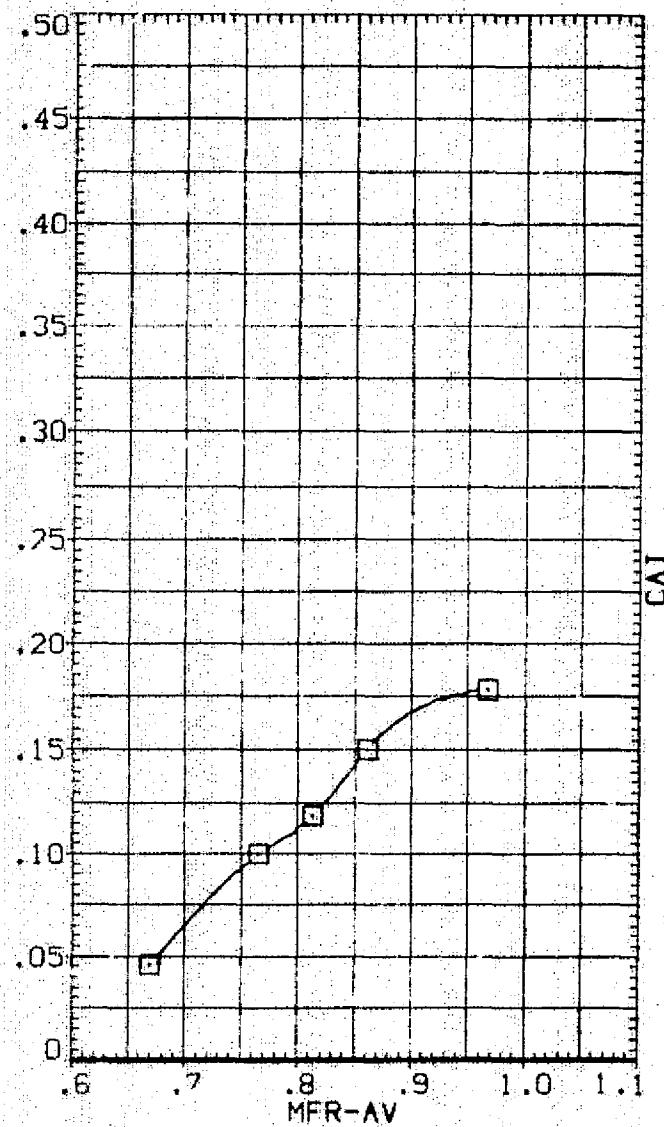
FIG. 9 EFFECTS OF ANGLE OF ATTACK ON NACELLE FORCES.

(C)MACH = 1.40

DATA SET SYMBOL: CONFIGURATION DESCRIPTION
(RAPO13) DATA NOT AVAILABLE
(DAP017) N1 N1

X-INBO 2Y1/B 2Y0/B DX
40.000 .250 .550 8.000
40.000 .250 .550 8.000

CAG



CAT

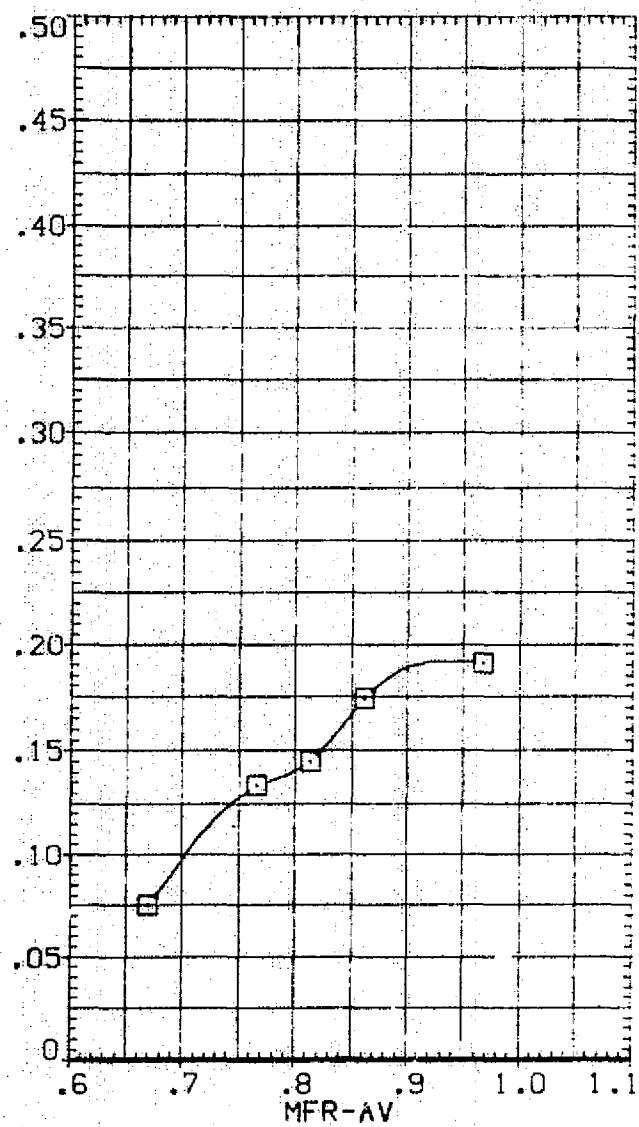


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.

CADMACH = .98

PAGE 58

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP013) \bigcirc N2 N2
 (DAP017) \square N1 N1

X- IN80 2Y1/8 2Y0/8 D1
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

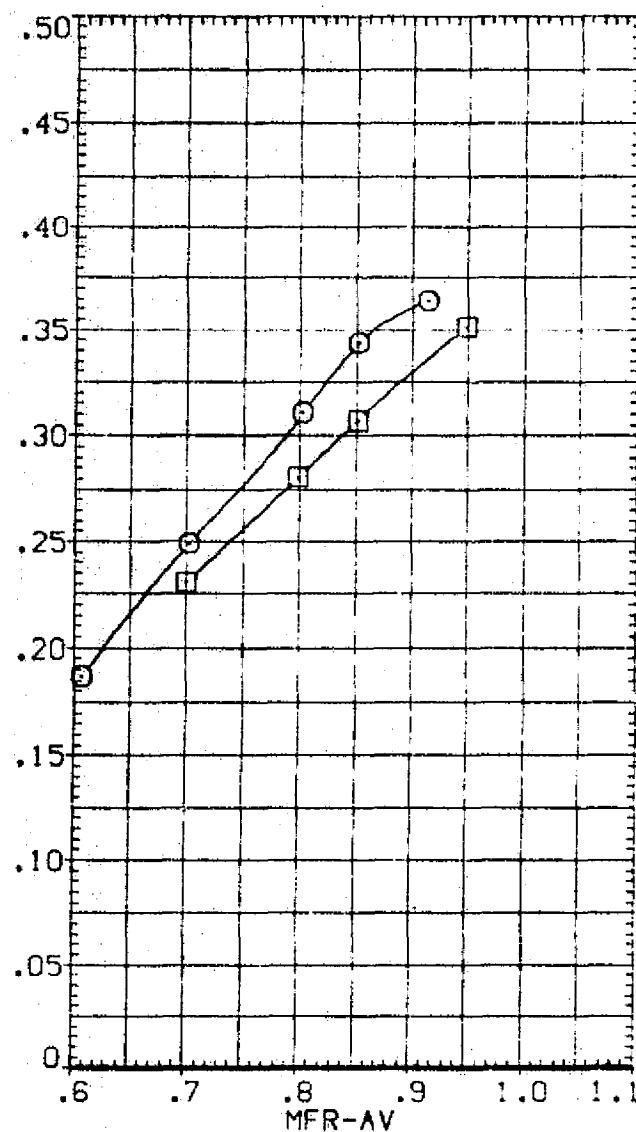
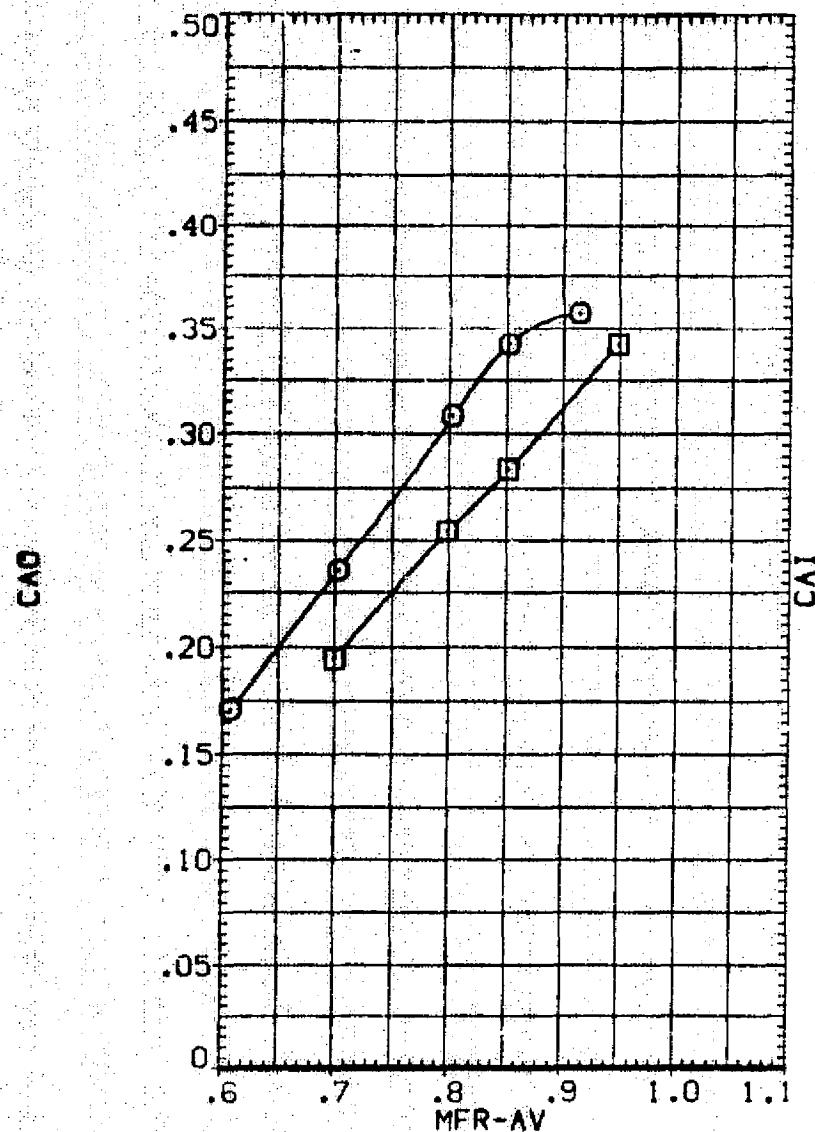


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.

(B)MACH = 1.15

PAGE 59

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP0131) N2 N2
 (DAP017) N1 N1

X-INCH 2Y1/B 2Y0/B DX
 40,00 .250 .550 8,000
 40,000 .250 .550 8,000

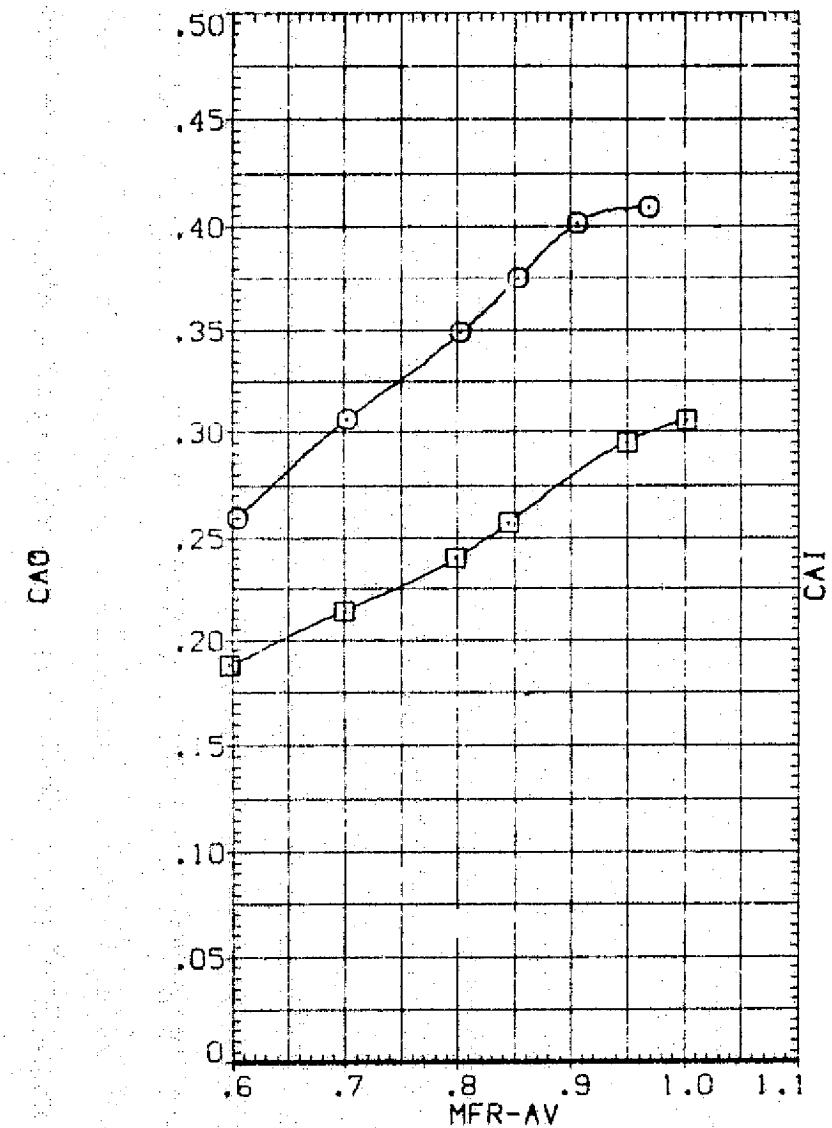
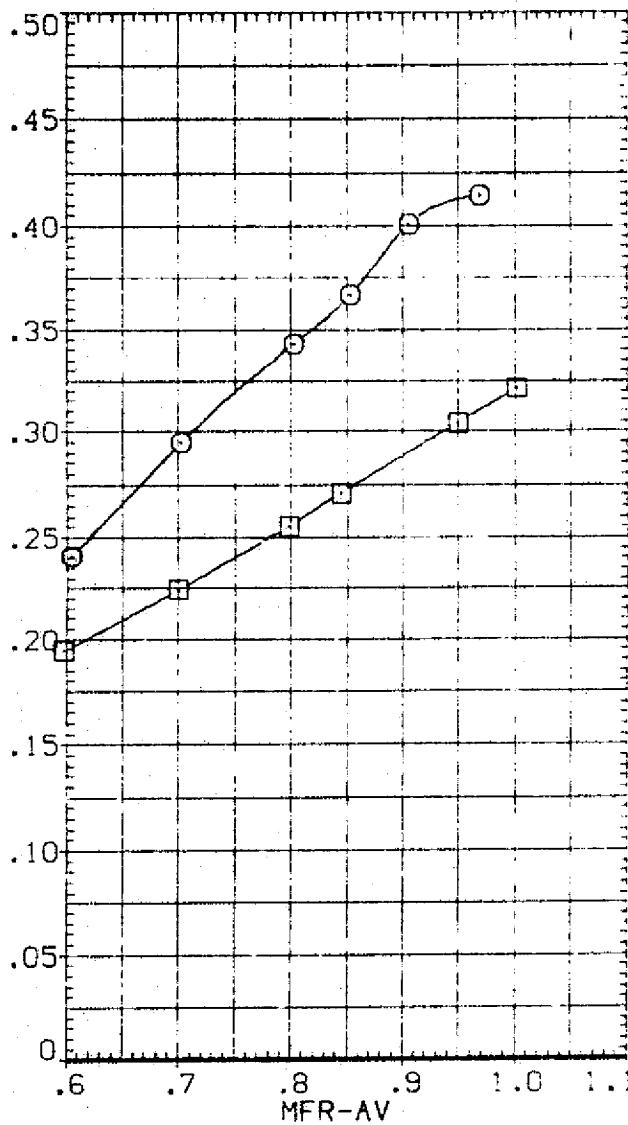


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.
 $CCMACH = 1.40$



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP013) DATA NOT AVAILABLE
 (RAP017) N1 N1

X-IN80 2Y1/B 2Y0/B 0X
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

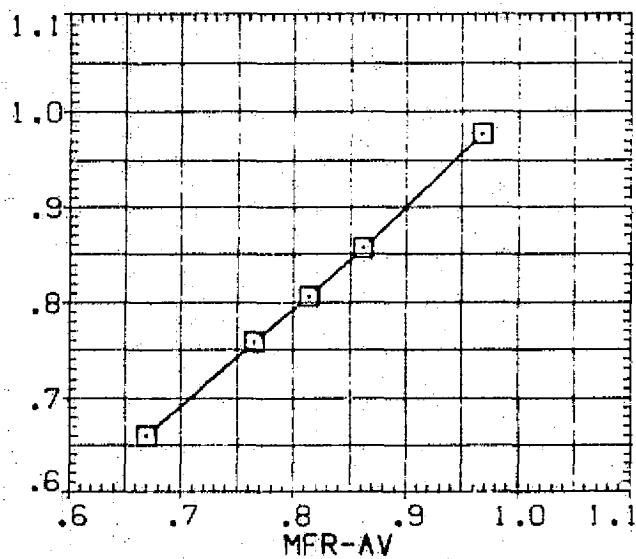
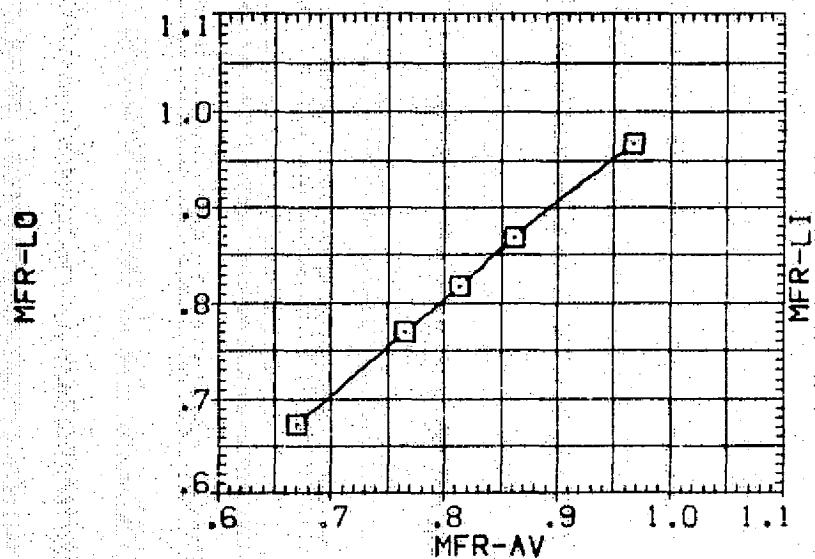
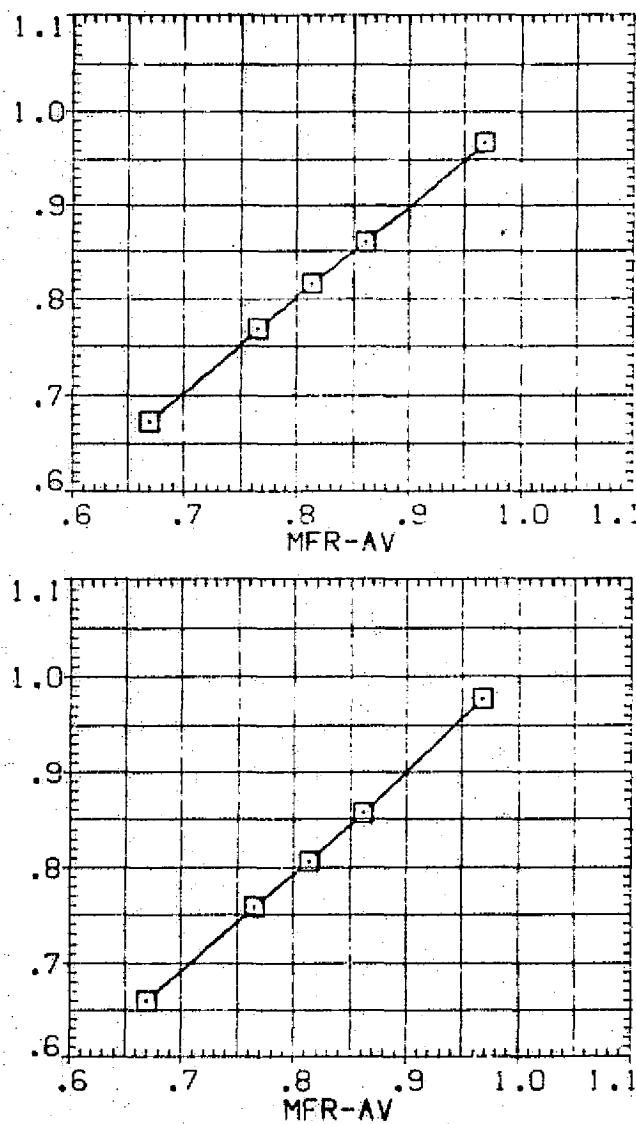
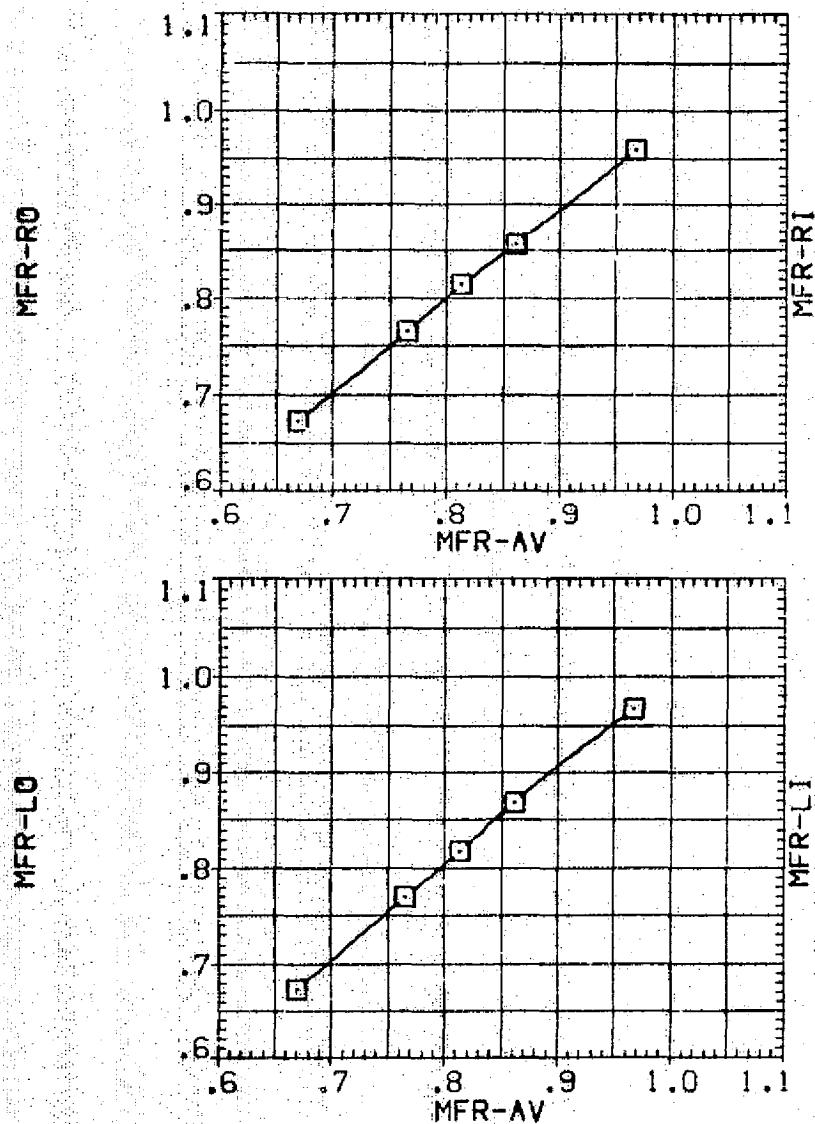


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.

(ADMACH = .98

DATA SET SYMBOL COMPUTATION DESCRIPTION
 (RAP013) N2 N2
 (DAP017) N1 N1

X-1N8D 2Y1/8 2Y0/8 DX
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

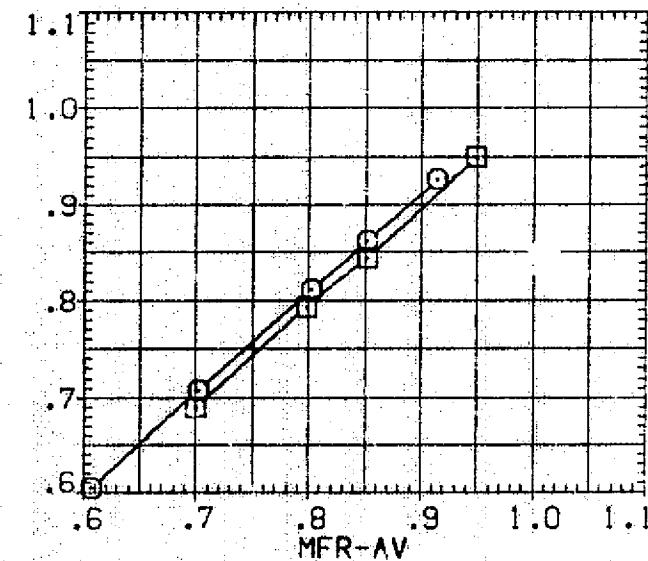
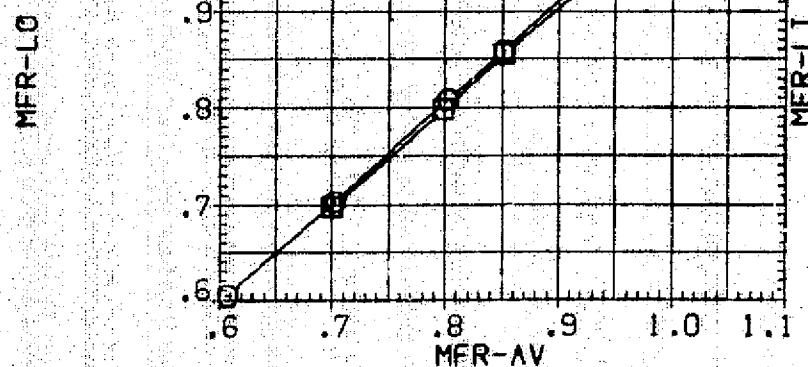
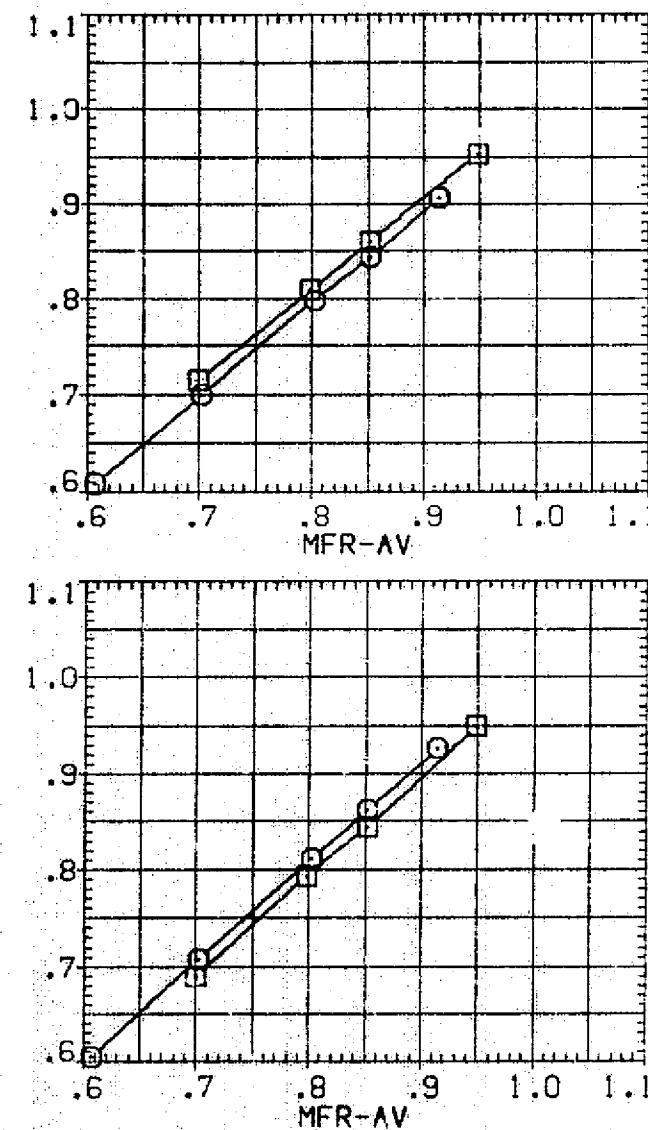
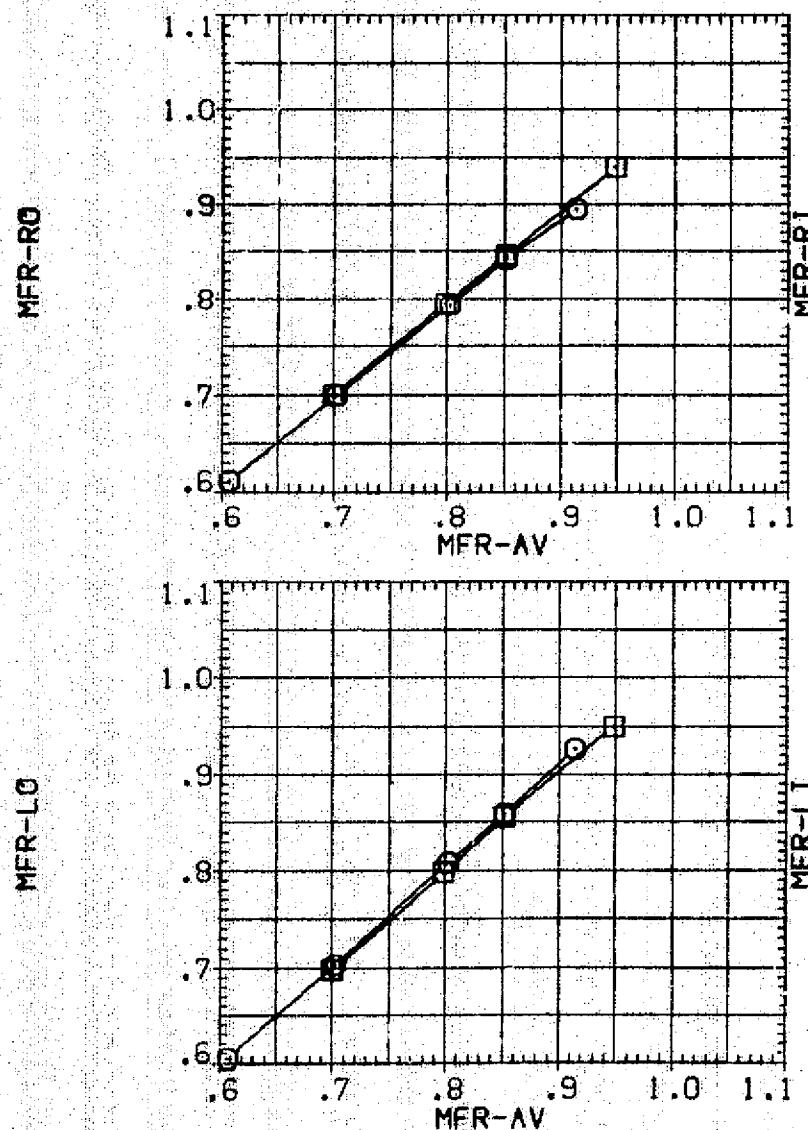


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.

(B)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAPO13) \square N2 N2
 (RAPO17) \circ N1 N1

X-INBP 2Y1/B 2Y0/B DX
 40,000 .250 .550 8,000
 40,000 .250 .550 8,000

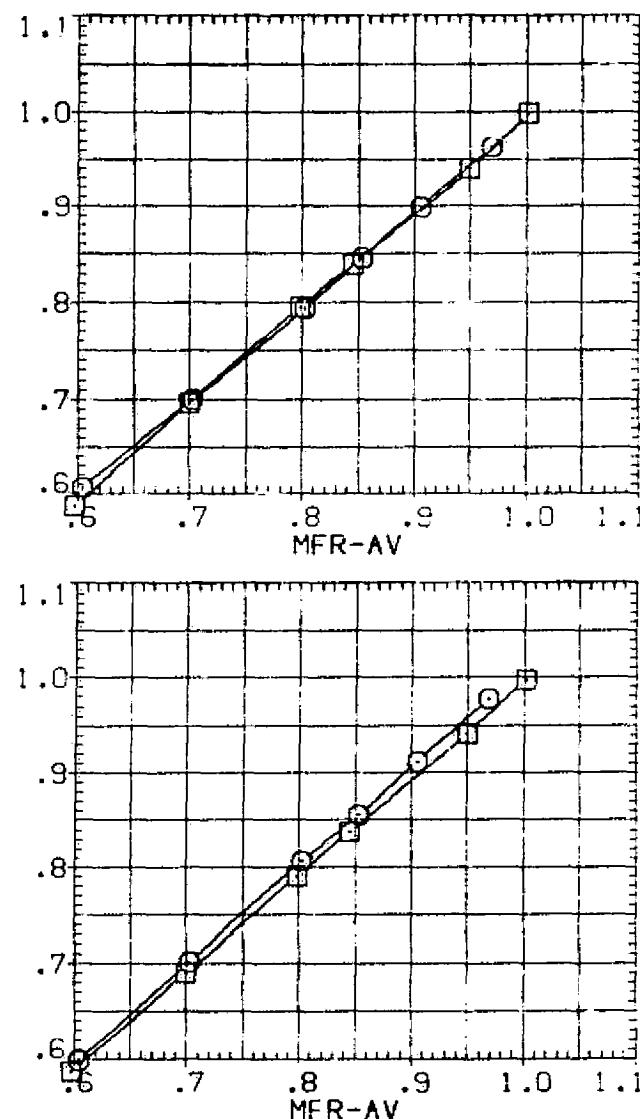
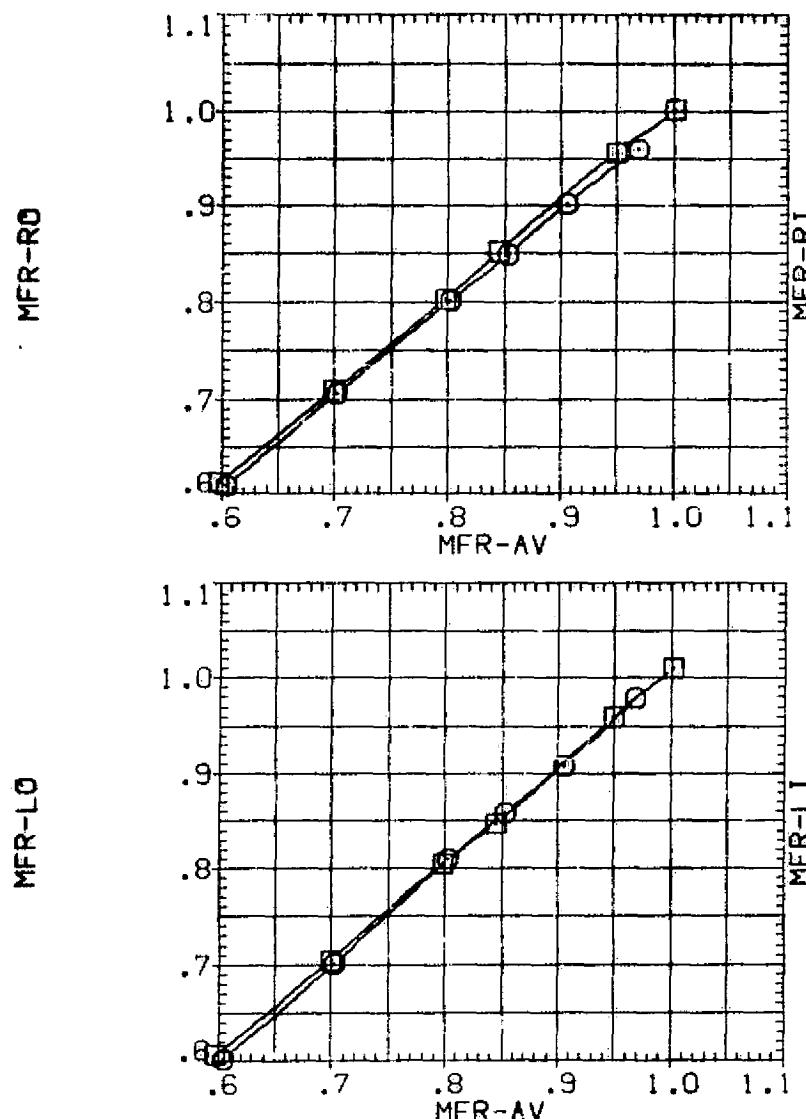


FIG. 10 EFFECTS OF MASS FLOW RATIO ON NACELLE AXIAL FORCE.

(COMACH = 1.40)

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RAP019)	W B N1 N1
(RAP020)	DATA NOT AVAILABLE
(RAP021)	DATA NOT AVAILABLE
(RAP031)	DATA NOT AVAILABLE
(RAP032)	DATA NOT AVAILABLE
(RAP033)	DATA NOT AVAILABLE

2Y1/B	2Y0/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

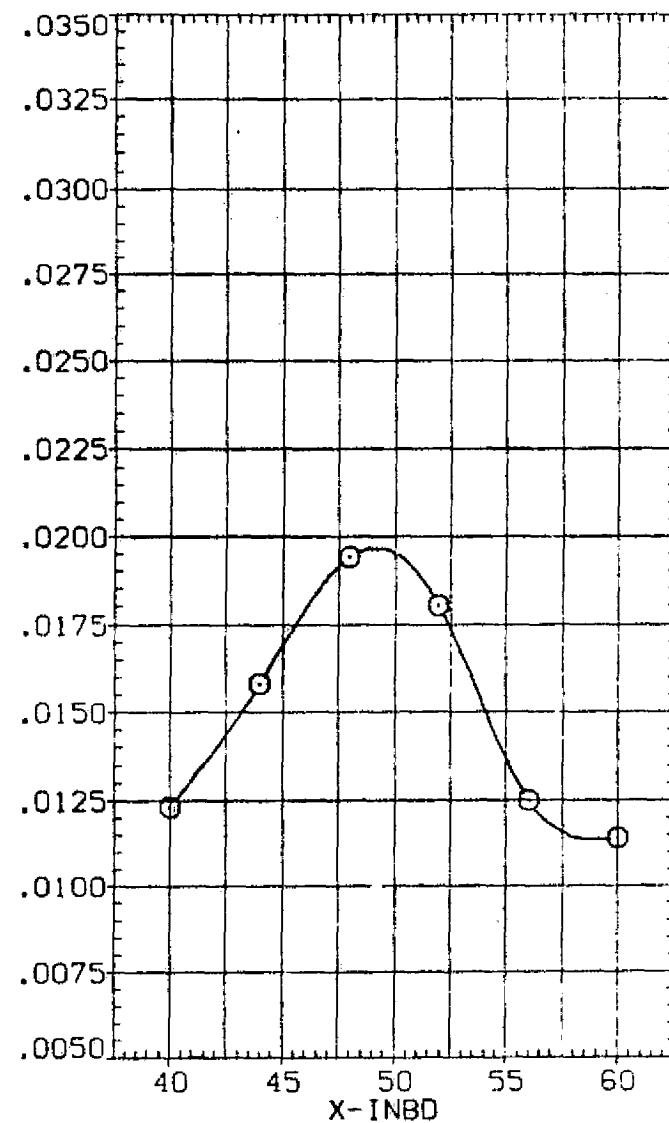
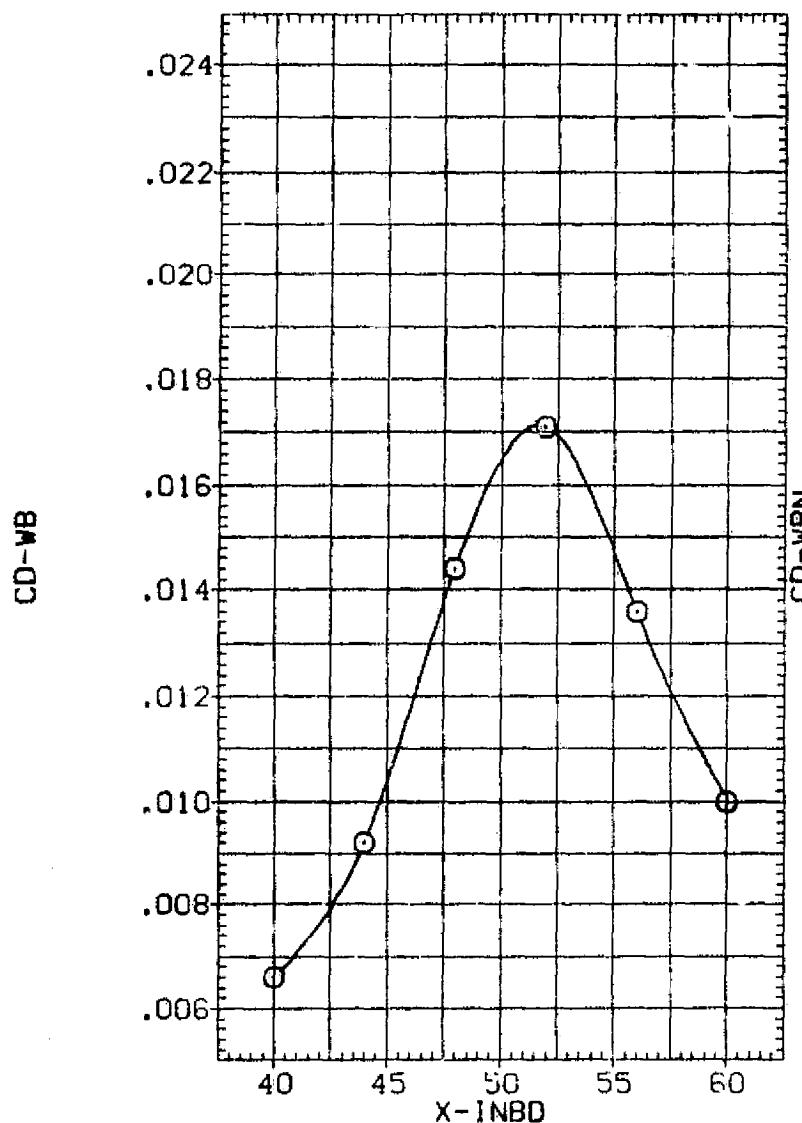


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 64

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[RAP019]	○	W B N1 N1
[RAP020]	○	W B N1 N1
[RAP021]	△	W B N1 N1
[RAP031]	△	W B N2 N2
[RAP032]	□	W B N2 N2
[RAP033]	□	W B N2 N2

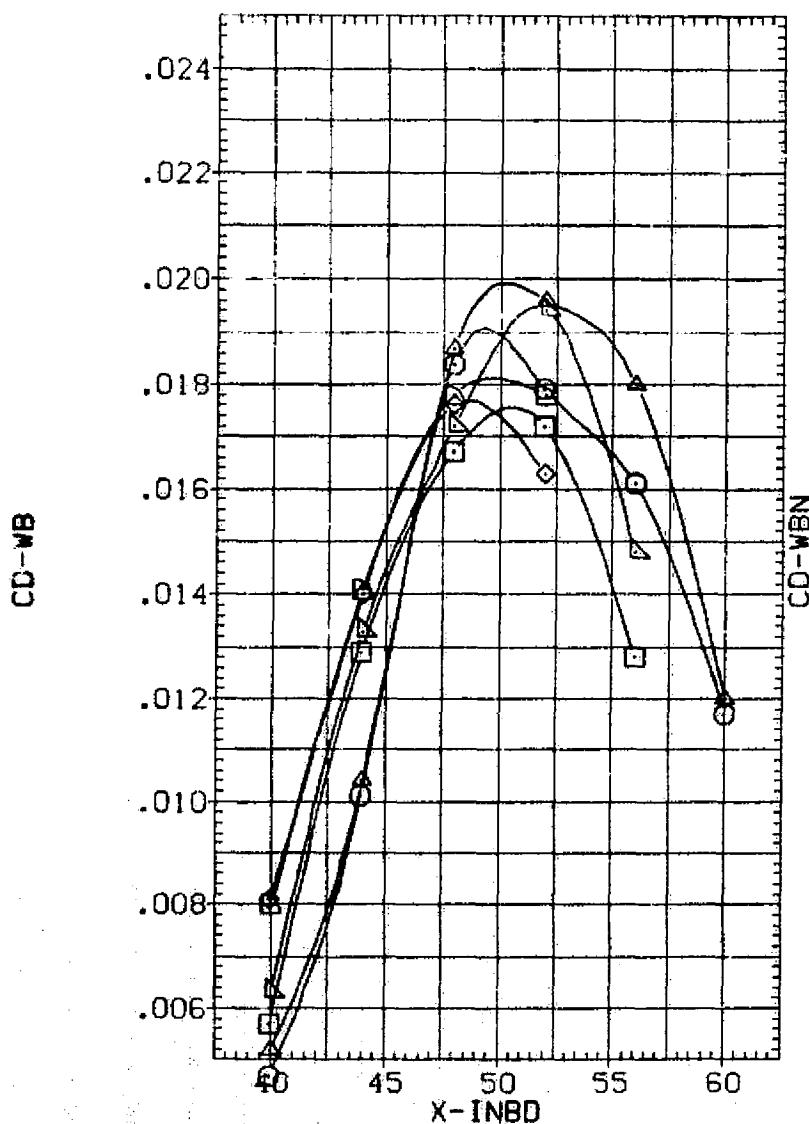
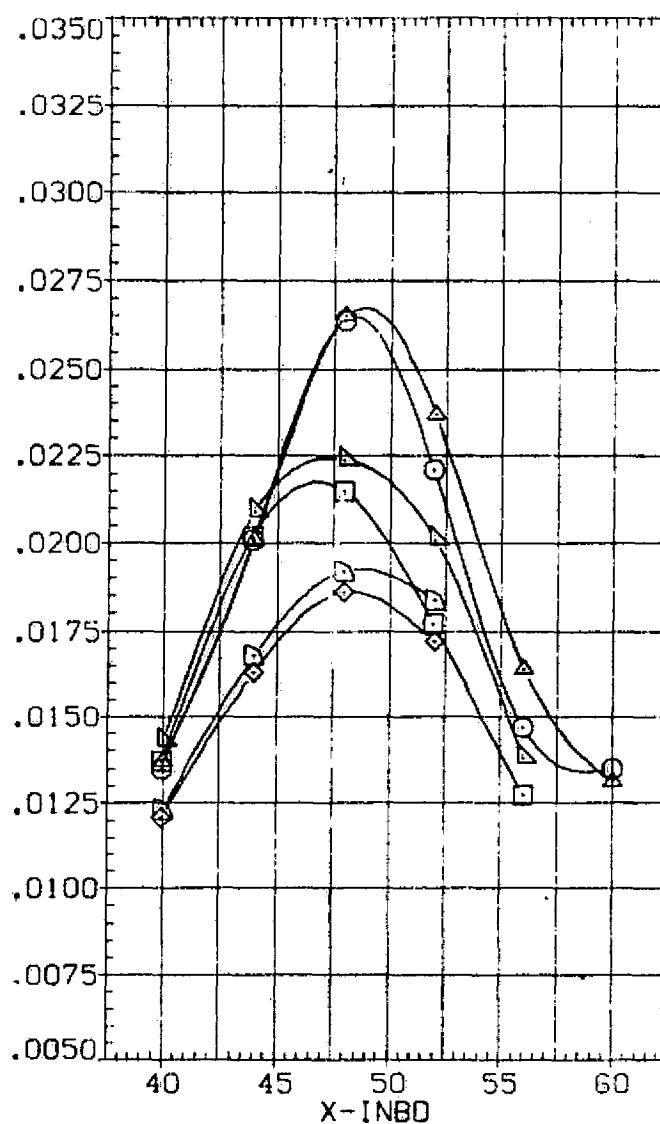


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  V B N1 N1
 (RAP020)  DATA NOT AVAILABLE
 (RAP021)  DATA NOT AVAILABLE
 (RAP031)  DATA NOT AVAILABLE
 (RAP032)  DATA NOT AVAILABLE
 (RAP033)  DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

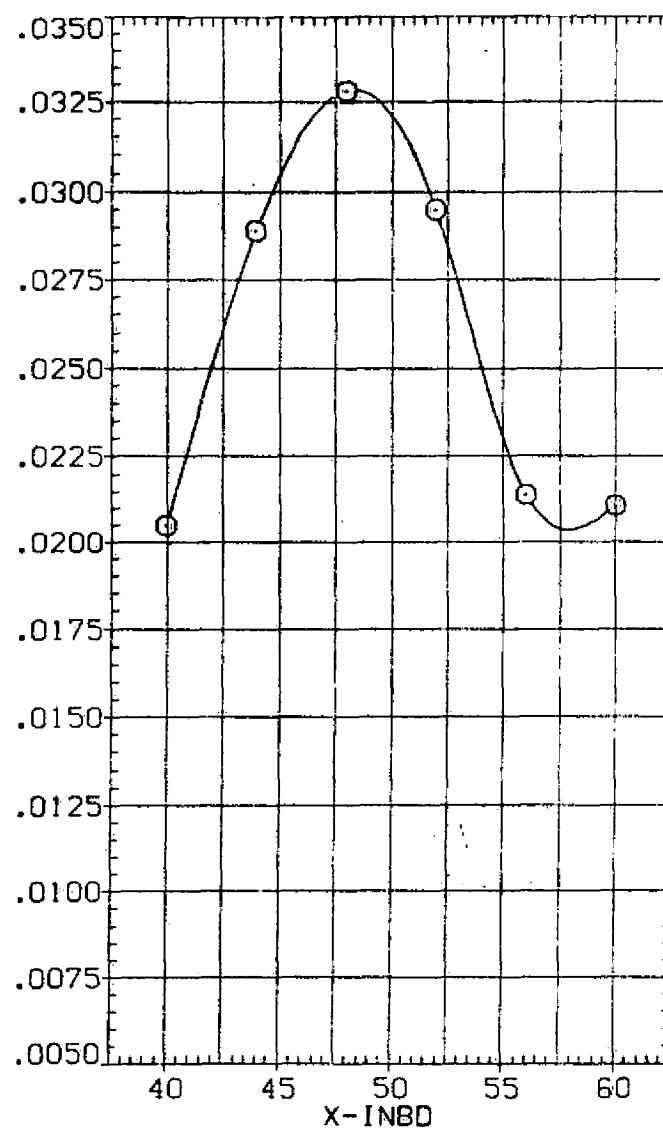
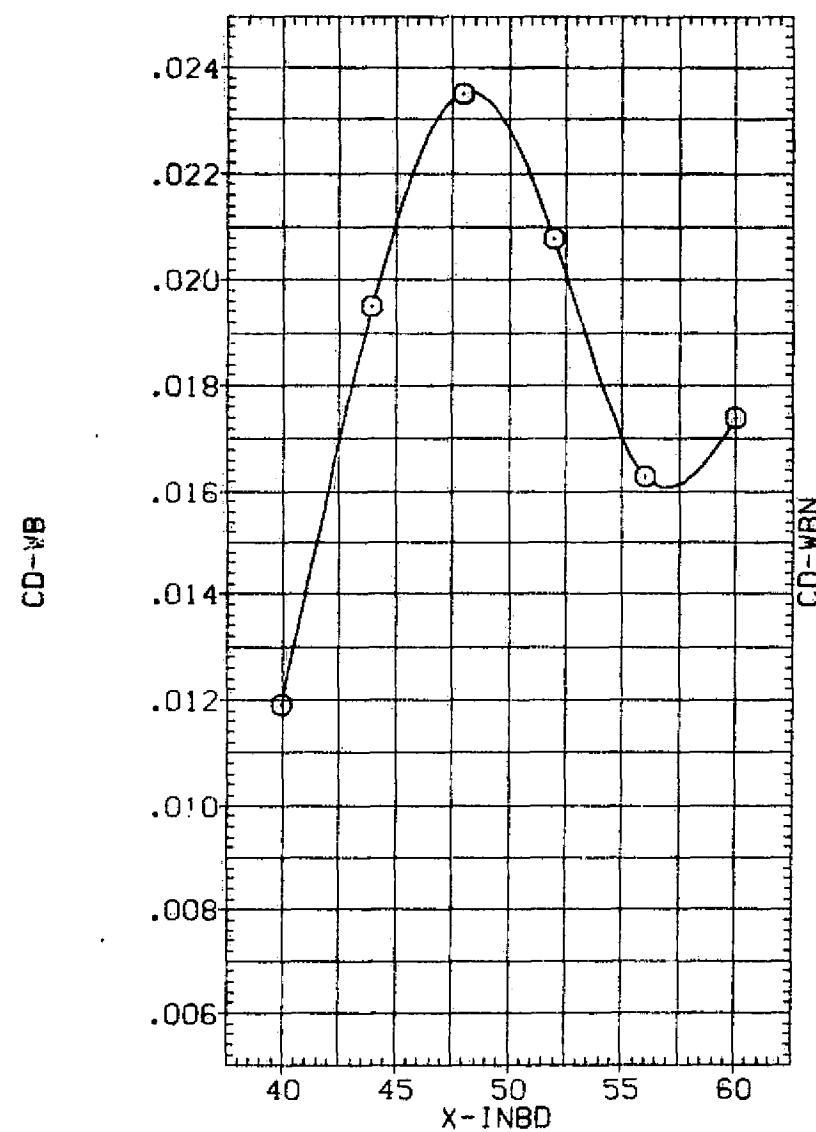


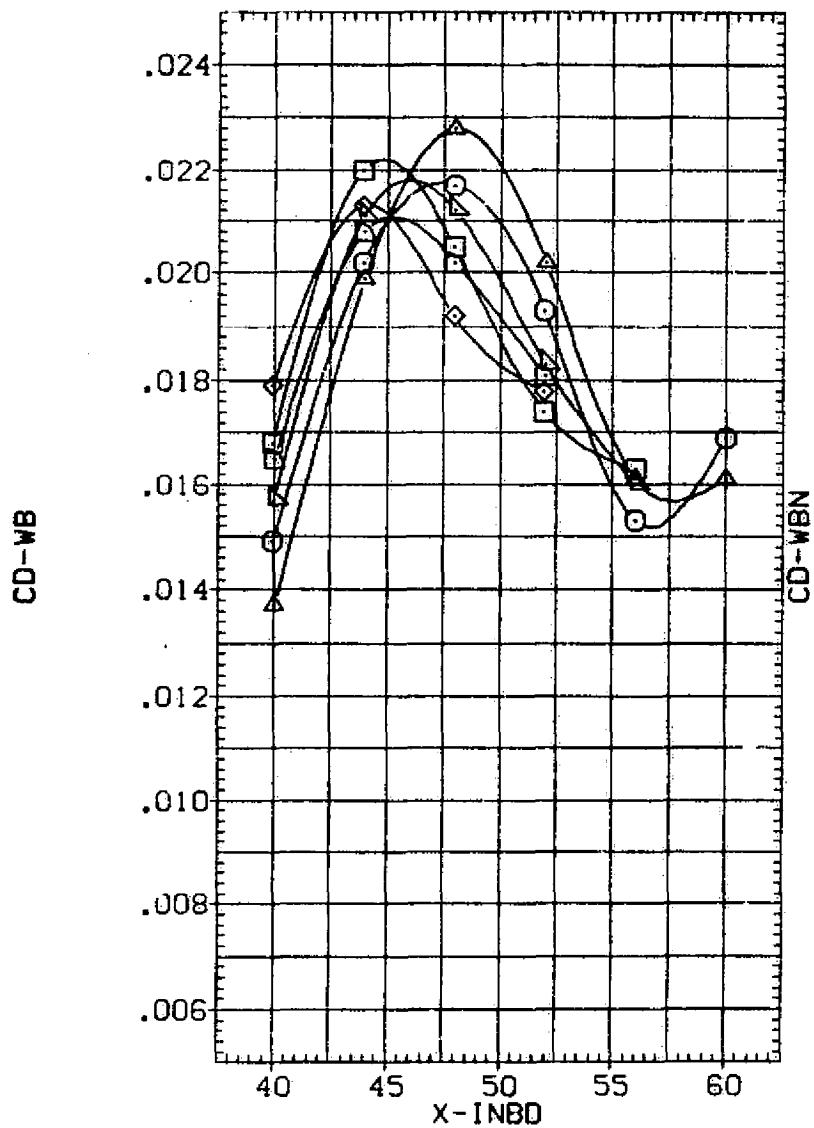
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 66

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	□	W	N1	N1
(RAP020)	□	W	N1	N1
(RAP021)	□	W	N1	N1
(RAP031)	△	W	N2	N2
(RAP032)	△	W	N2	N2
(RAP033)	□	W	N2	N2



2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

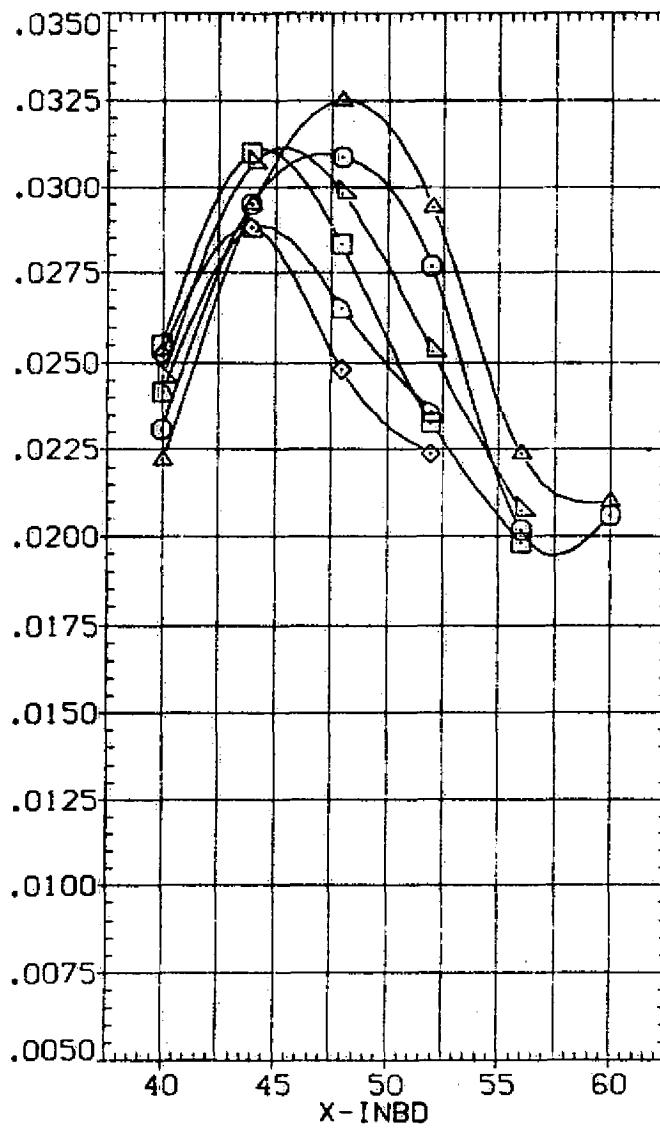


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(DD)MACH = 1.15

PAGE 67

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  W-B-N1-N1
 (RAP020)  DATA NOT AVAILABLE
 (RAP021)  DATA NOT AVAILABLE
 (RAP031)  DATA NOT AVAILABLE
 (RAP032)  DATA NOT AVAILABLE
 (RAP033)  DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

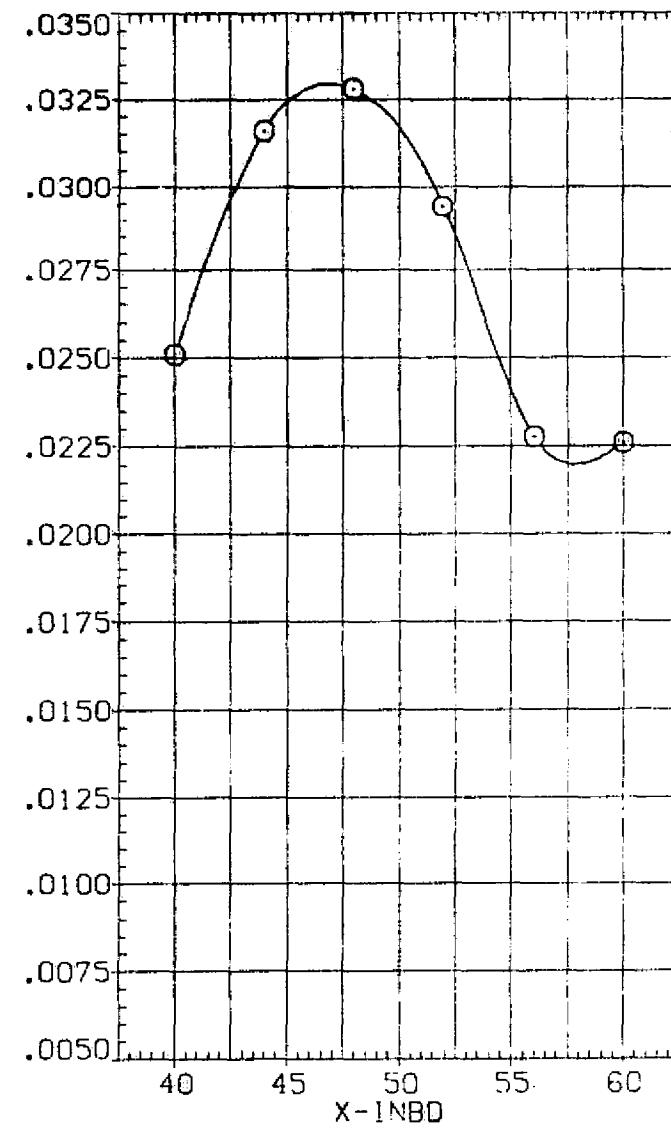
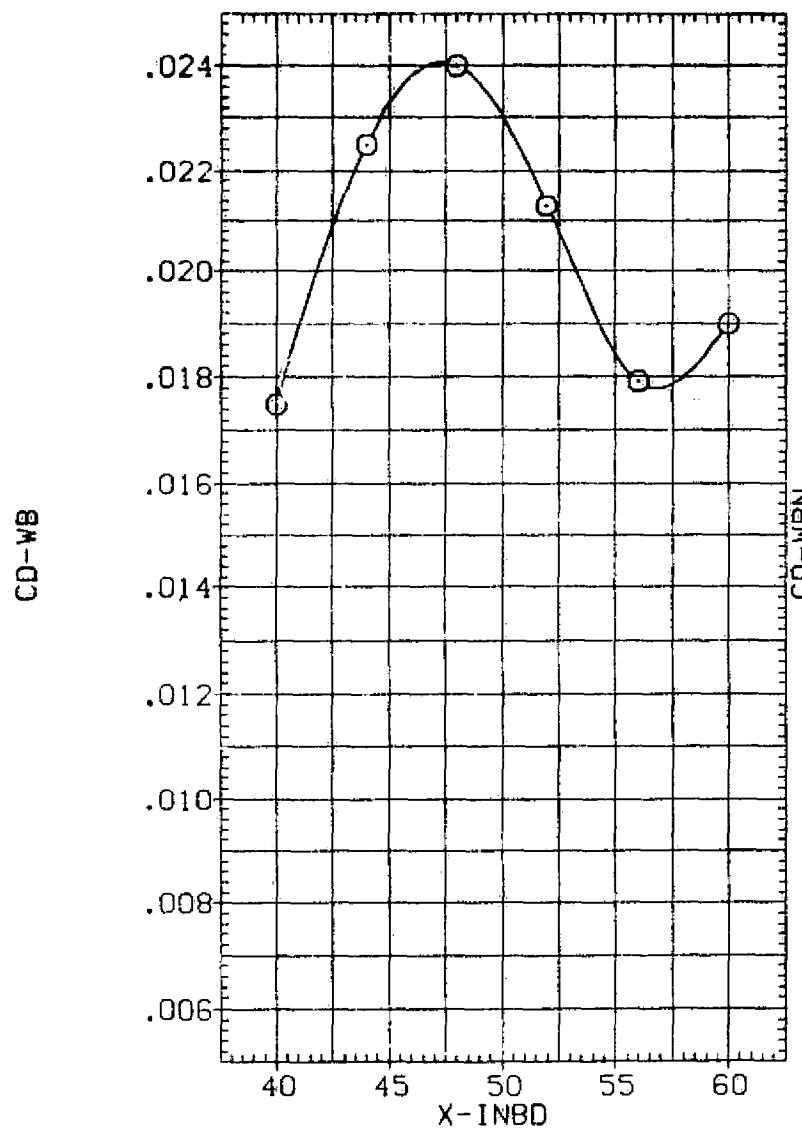


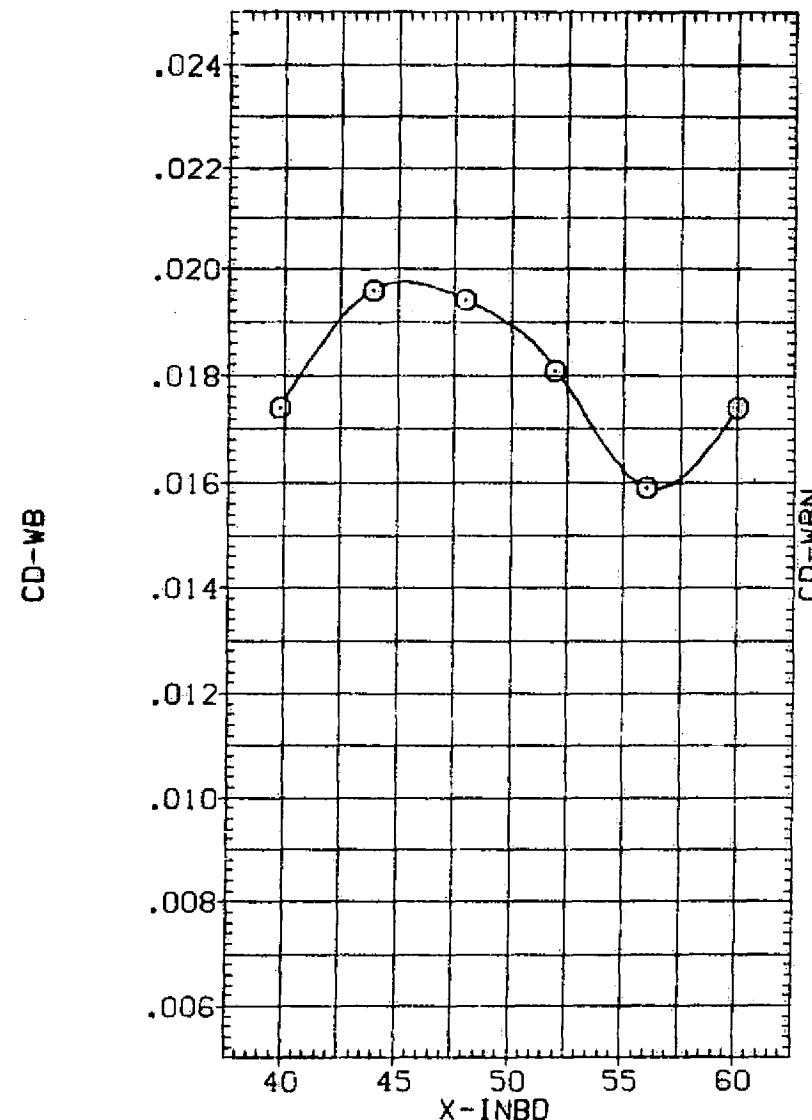
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

CEOMACH = 1.17

PAGE 68

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	□	W B N1 N1
(RAP020)	□□	DATA NOT AVAILABLE
(RAP021)	□□□	DATA NOT AVAILABLE
(RAP031)	□□□□	DATA NOT AVAILABLE
(RAP032)	□□□□□	DATA NOT AVAILABLE
(RAP033)	□□□□□□	DATA NOT AVAILABLE



2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

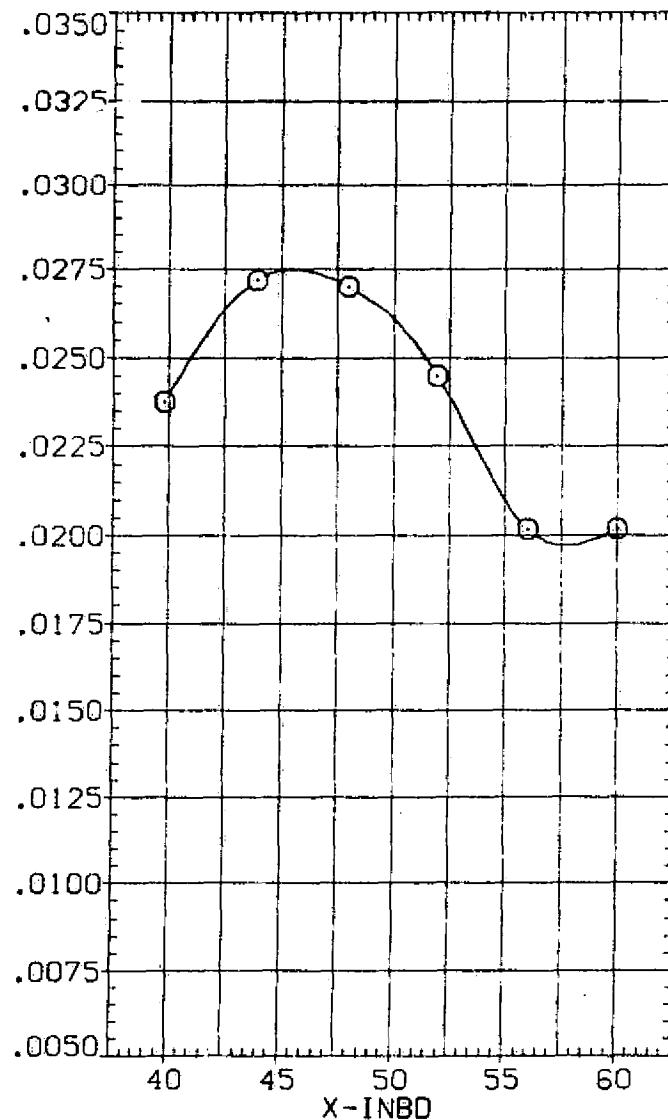


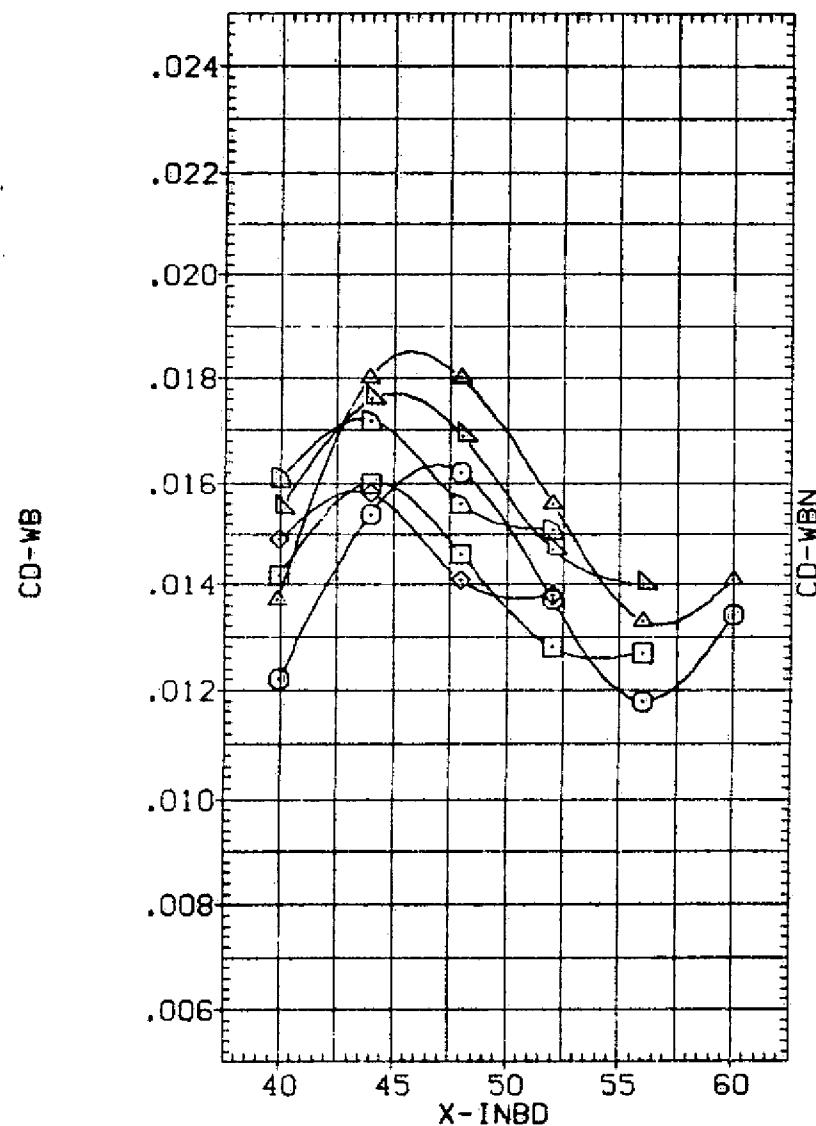
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 69

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	□	B N1 N1
(RAP020)	□	B N1 N1
(RAP021)	◇	B N1 N1
(RAP031)	□	B N2 N2
(RAP032)	□	B N2 N2
(RAP033)	□	B N2 N2



2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

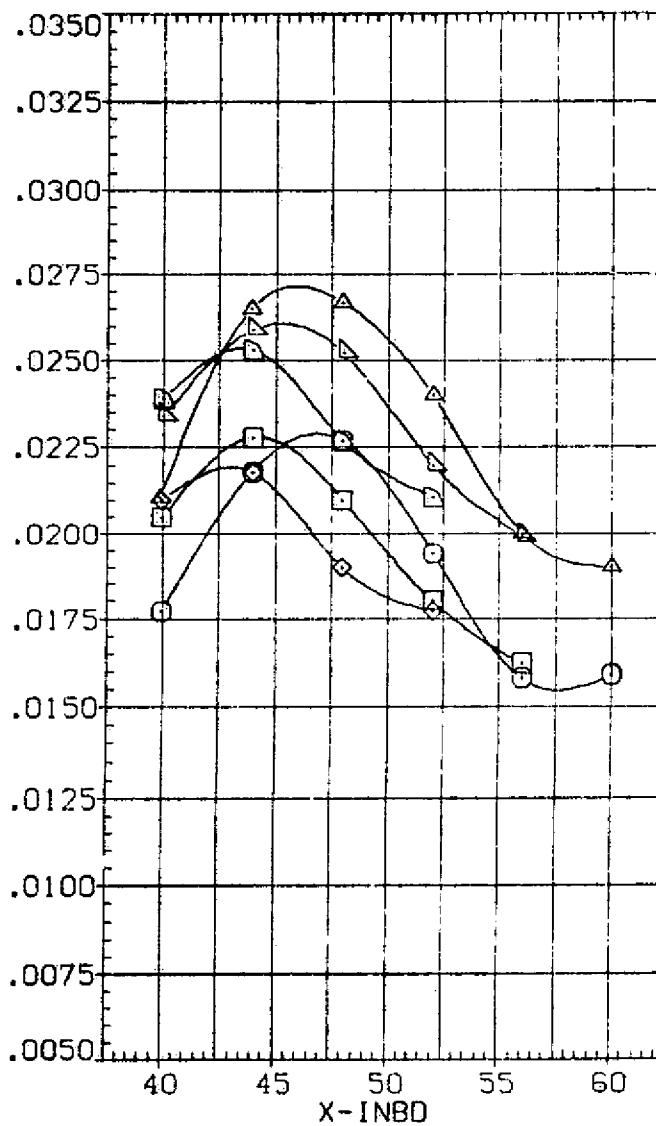


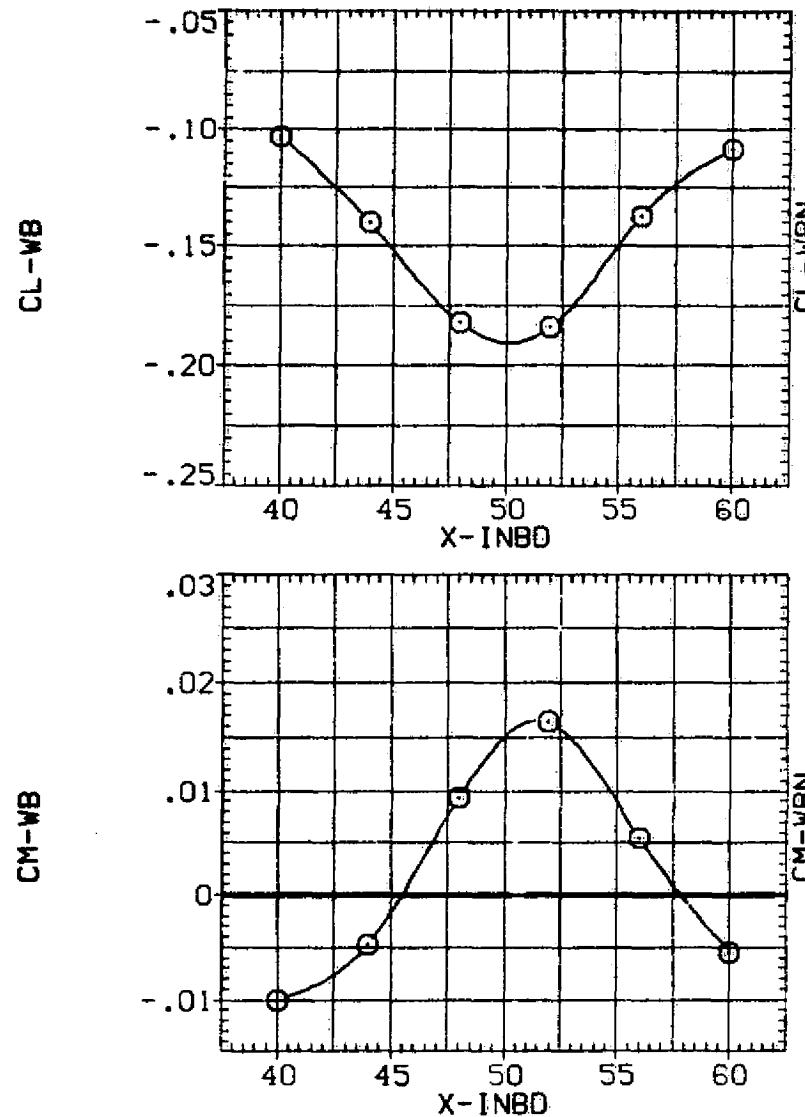
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.35

PAGE 70

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	□	W B N1 N1
(RAP020)	□	DATA NOT AVAILABLE
(RAP021)	□	DATA NOT AVAILABLE
(RAP022)	□	DATA NOT AVAILABLE
(RAP023)	□	DATA NOT AVAILABLE



2Y1/B 2Y0/B 0X

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

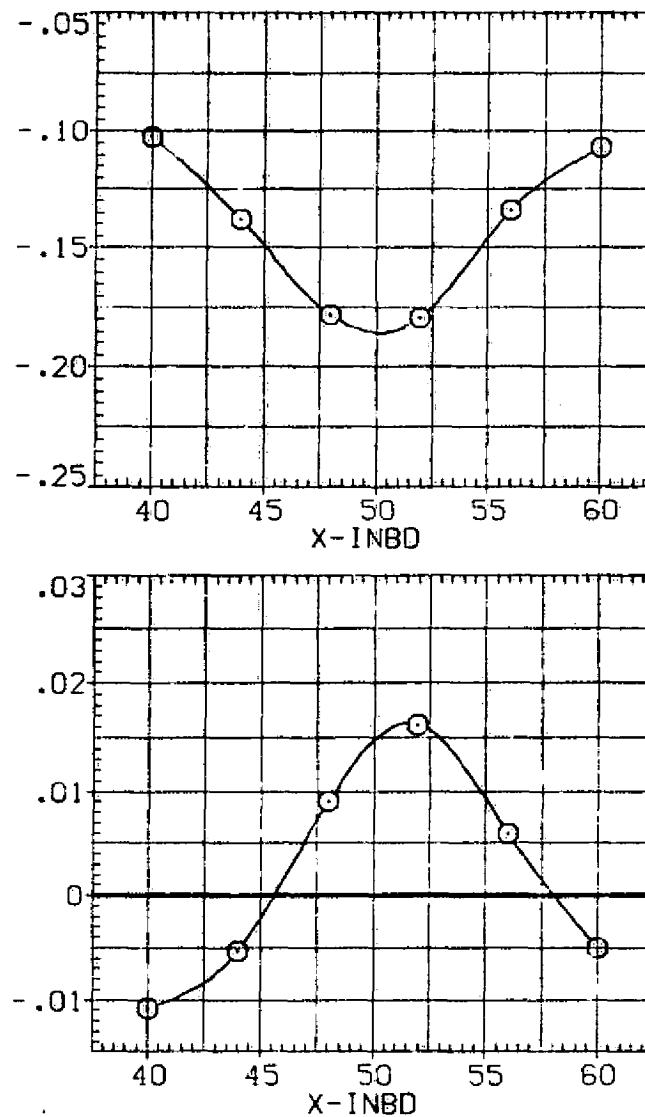


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 71

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	W B N1 N1
(RAP020)	×	W B N1 N1
(RAP021)	■	W B N1 N1
(RAP031)	△	W B N2 N2
(RAP032)	□	W B N2 N2
(RAP033)	□	W B N2 N2

2Y1/B 2Y0/B DX

250	.550	.000
250	.550	4.000
250	.550	8.000
250	.550	.000
250	.550	4.000
250	.550	8.000

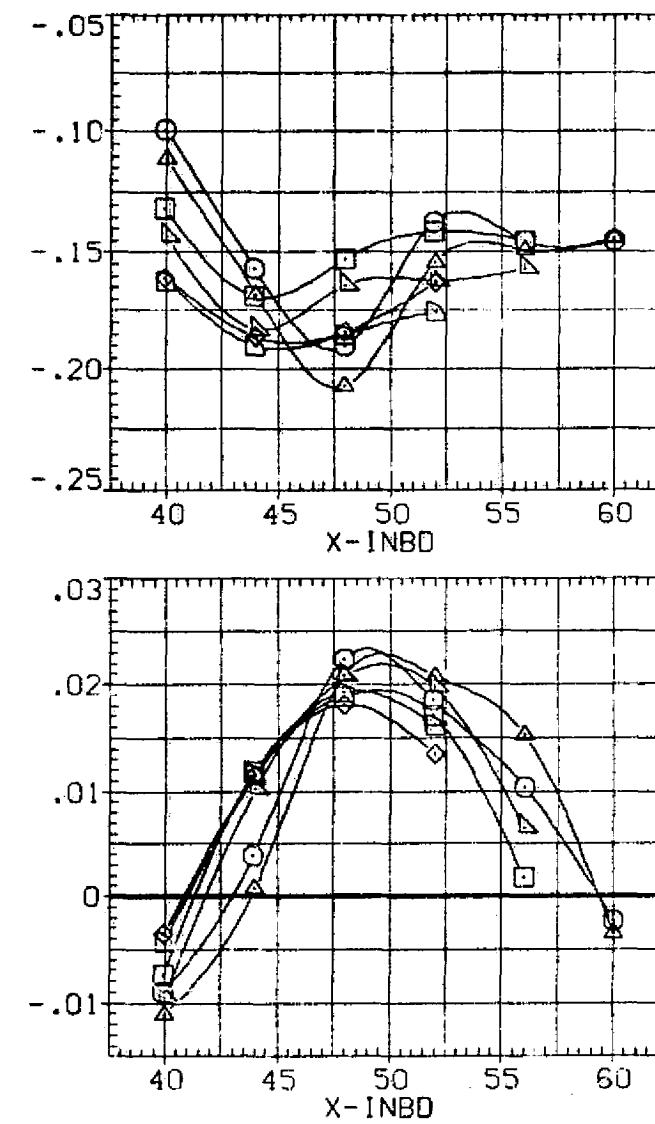
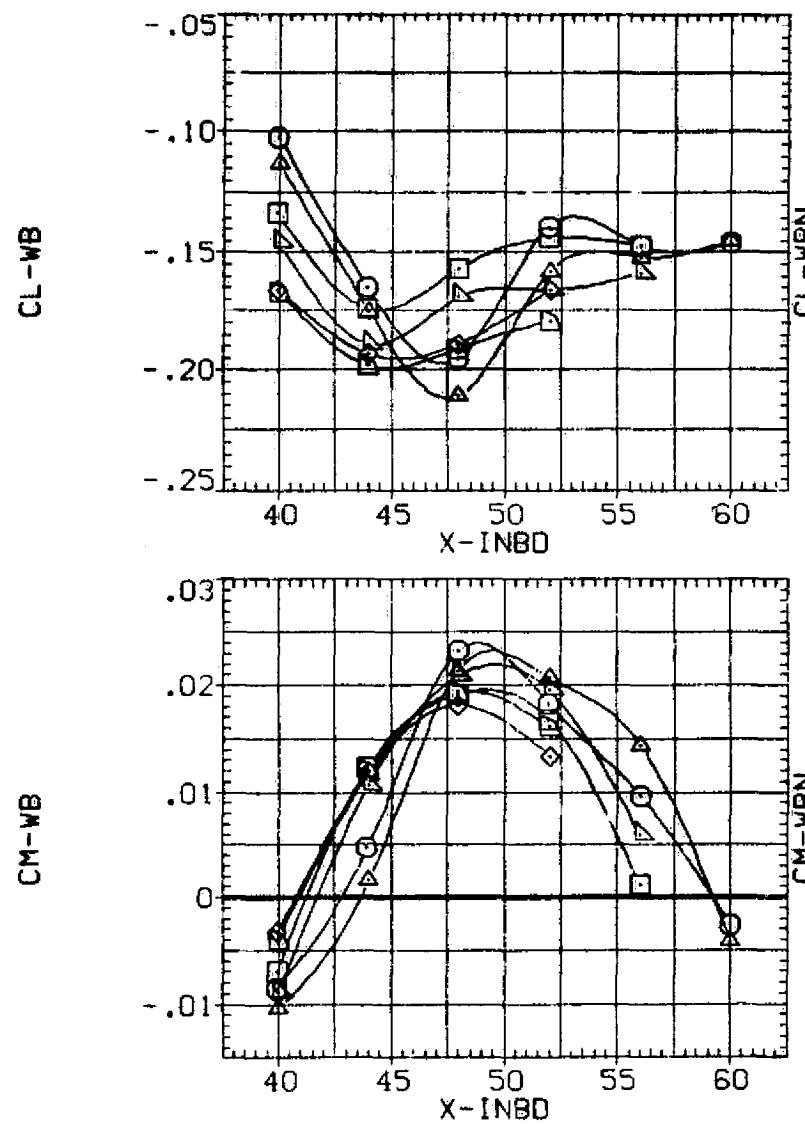


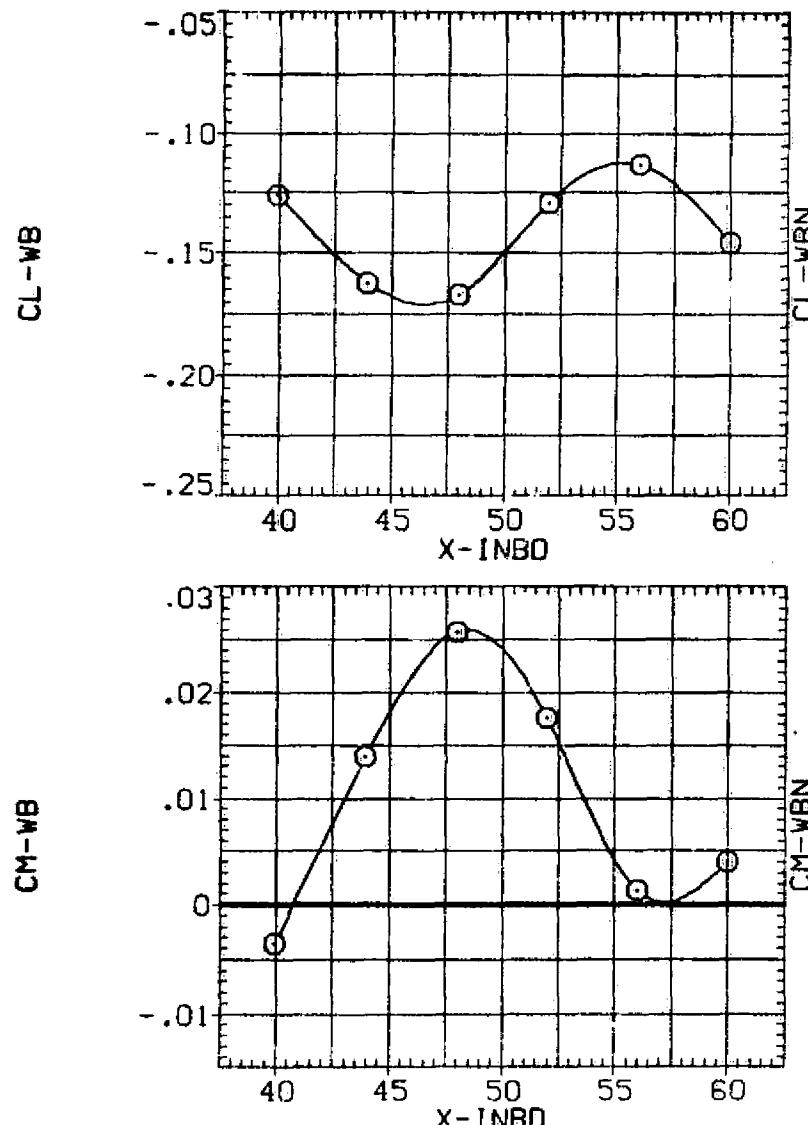
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 72

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	WB NI NI
(RAP020)	○	DATA NOT AVAILABLE
(RAP021)	○	DATA NOT AVAILABLE
(RAP031)	○	DATA NOT AVAILABLE
(RAP032)	○	DATA NOT AVAILABLE
(RAP033)	○	DATA NOT AVAILABLE



2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

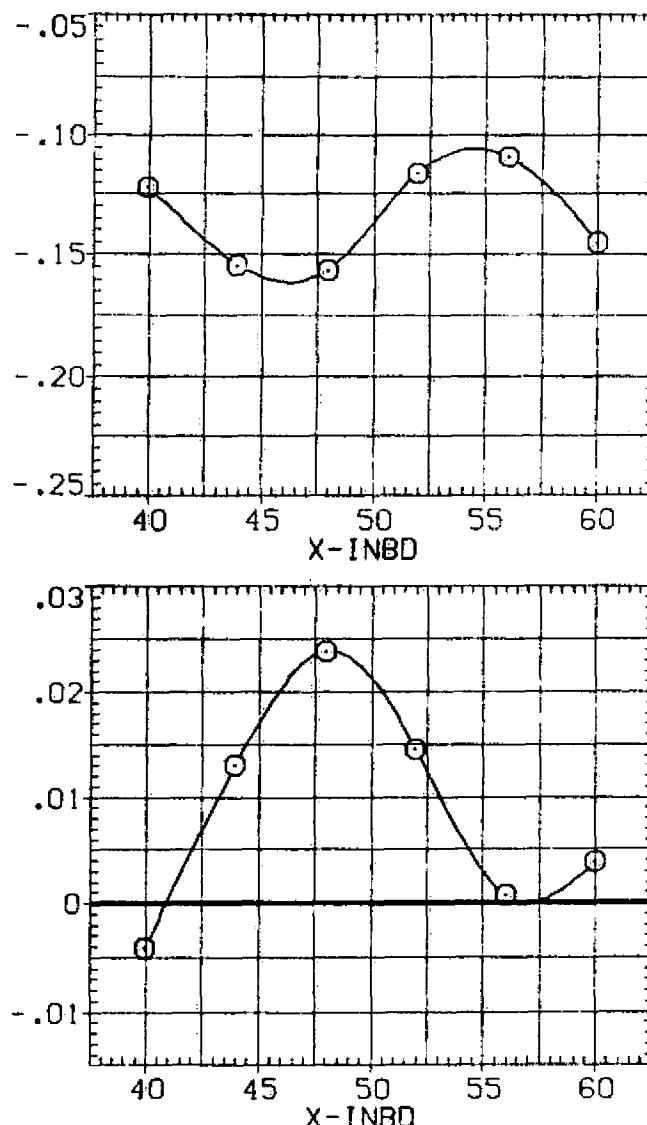


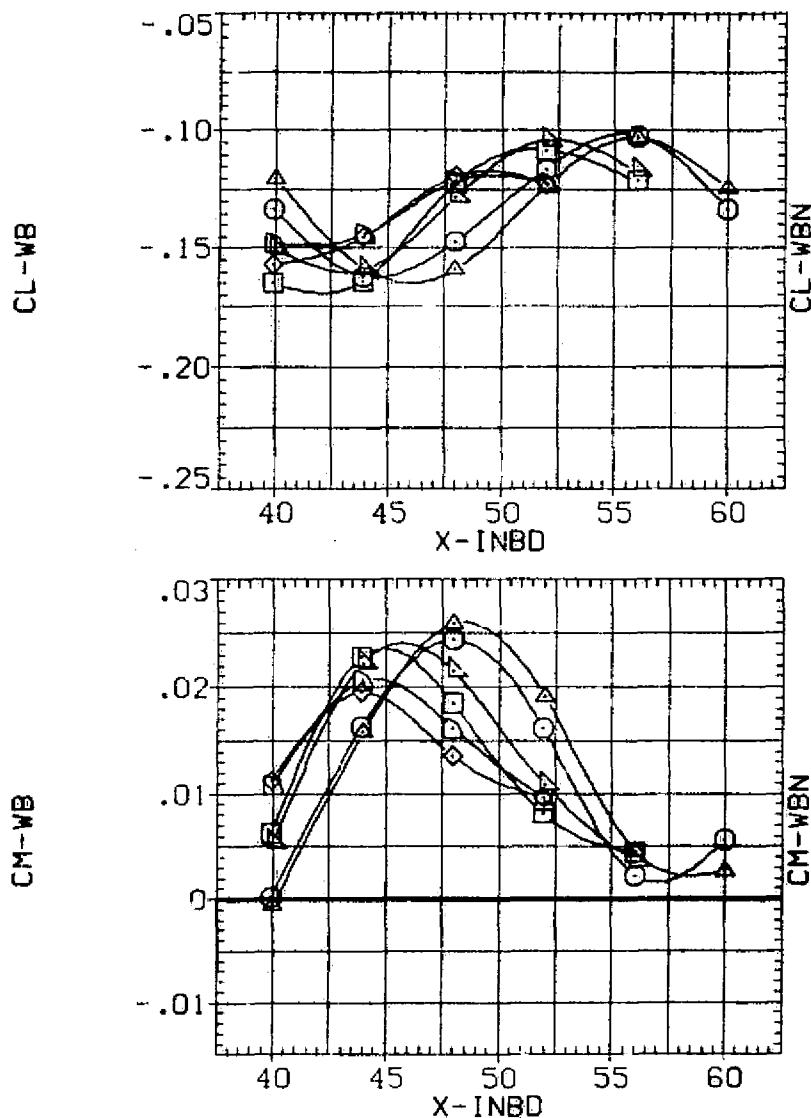
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 73

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	W 6 N1 N1
(RAP020)	○	W B N1 N1
(RAP021)	△	W B N1 N1
(RAP031)	△	W B N2 N2
(RAP032)	□	W B N2 N2
(RAP033)	□	W B N2 N2



2Y1/B 2Y0/B BX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

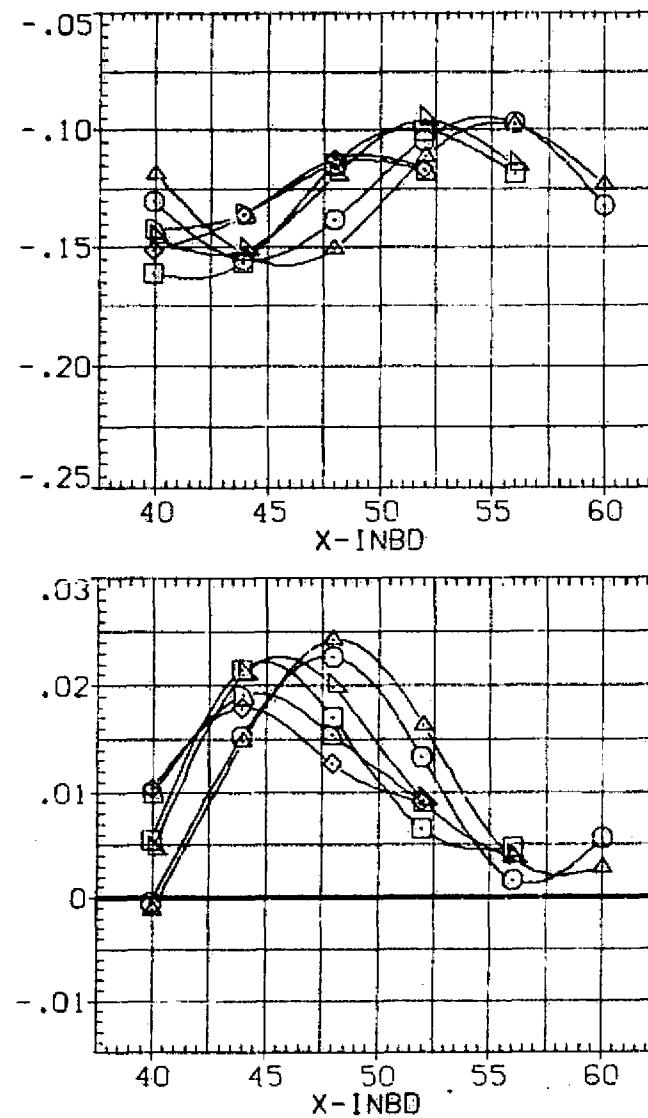
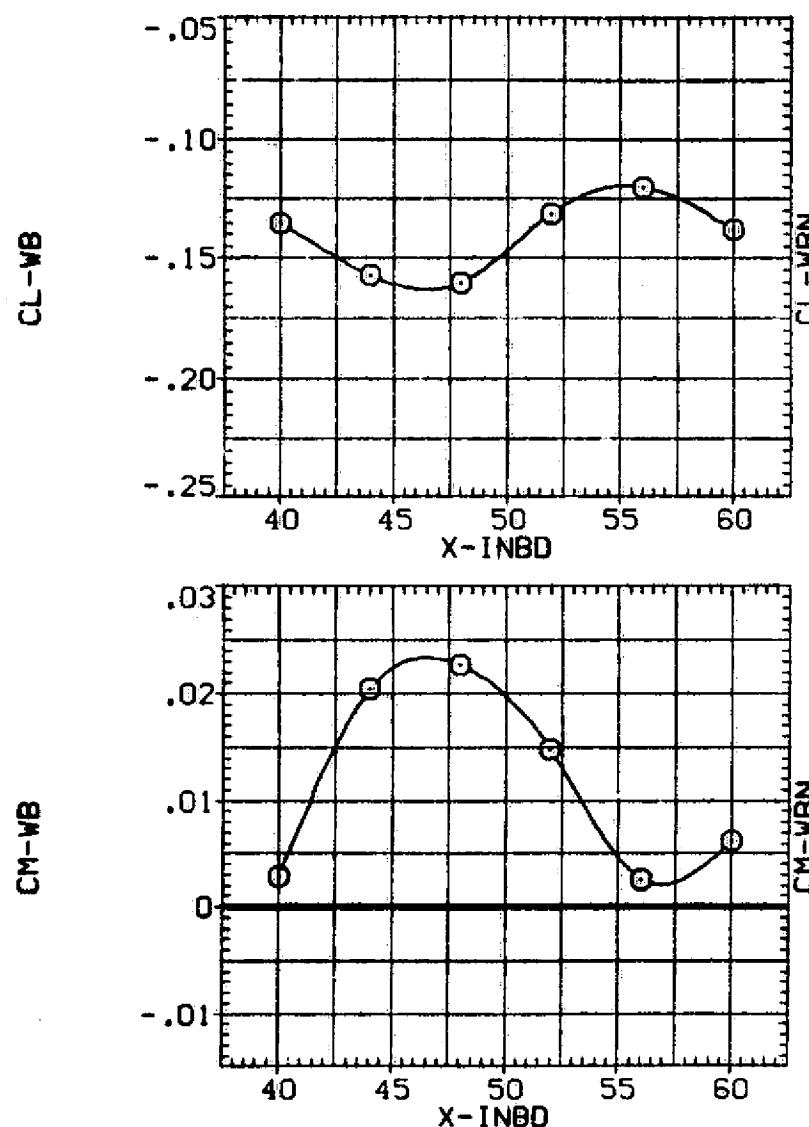


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 74

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(RAP019)	W B NI NI
(RAP020)	DATA NOT AVAILABLE
(RAP021)	DATA NOT AVAILABLE
(RAP031)	DATA NOT AVAILABLE
(RAP032)	DATA NOT AVAILABLE
(RAP033)	DATA NOT AVAILABLE



2Y1/B	2Y0/B	DX
250	.550	.000
250	.550	4.000
250	.550	8.000
250	.550	.000
250	.550	4.000
250	.550	8.000

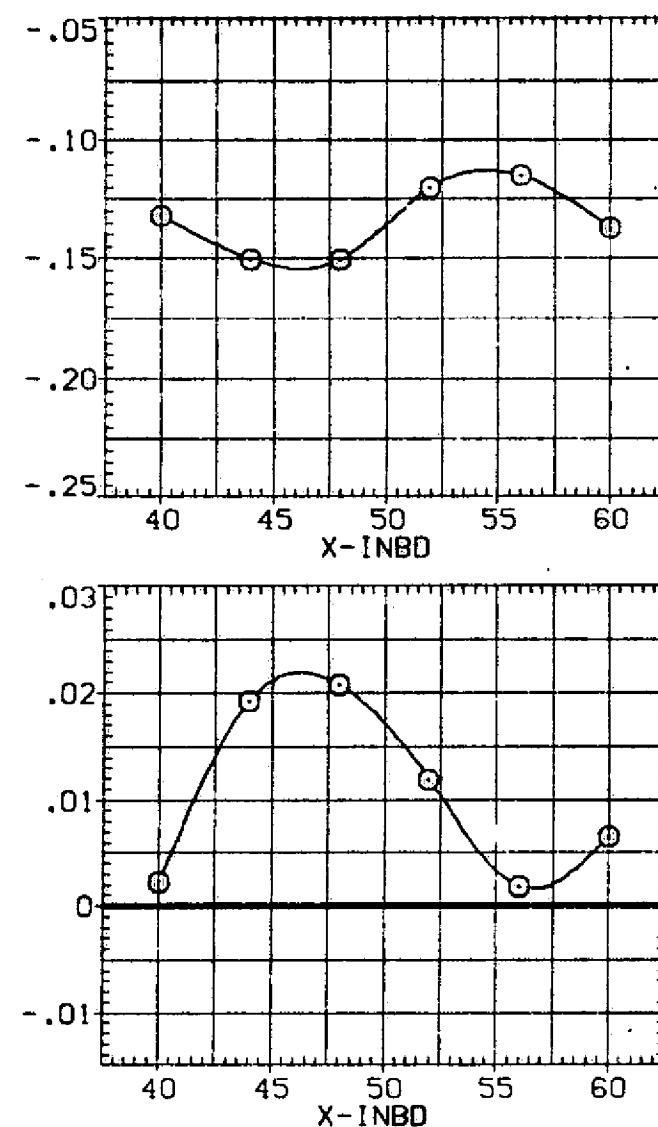


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

$(E)MACH = 1.17$

PAGE 75

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  W B N1 N1
 (RAP020)  DATA NOT AVAILABLE
 (RAP021)  DATA NOT AVAILABLE
 (RAP031)  DATA NOT AVAILABLE
 (RAP032)  DATA NOT AVAILABLE
 (RAP033)  DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

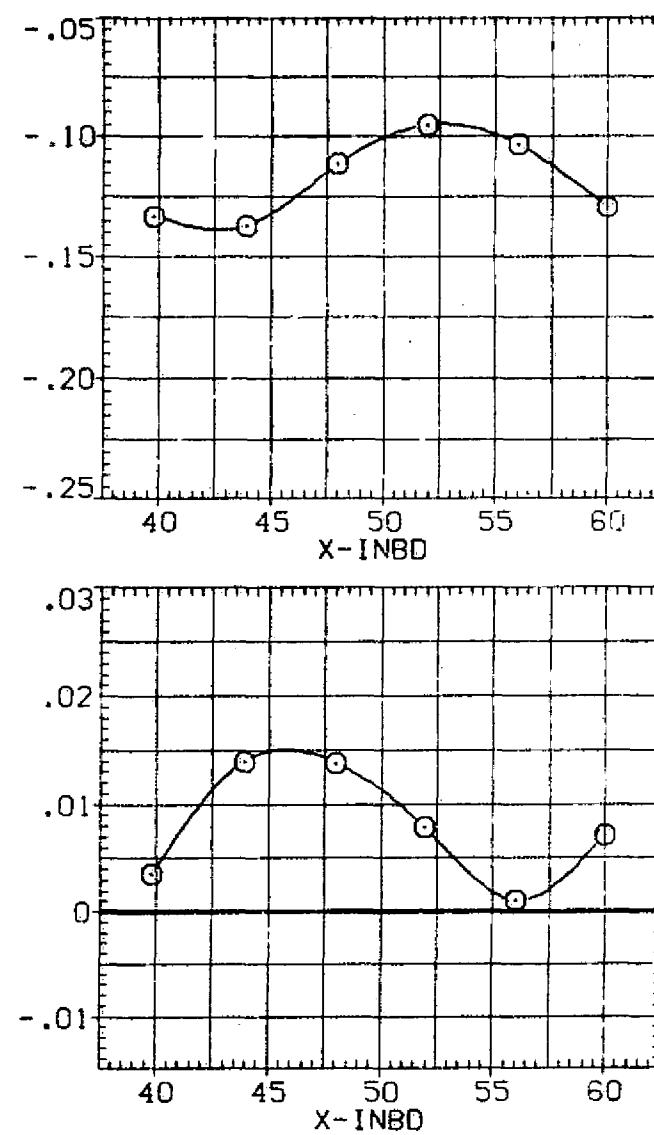
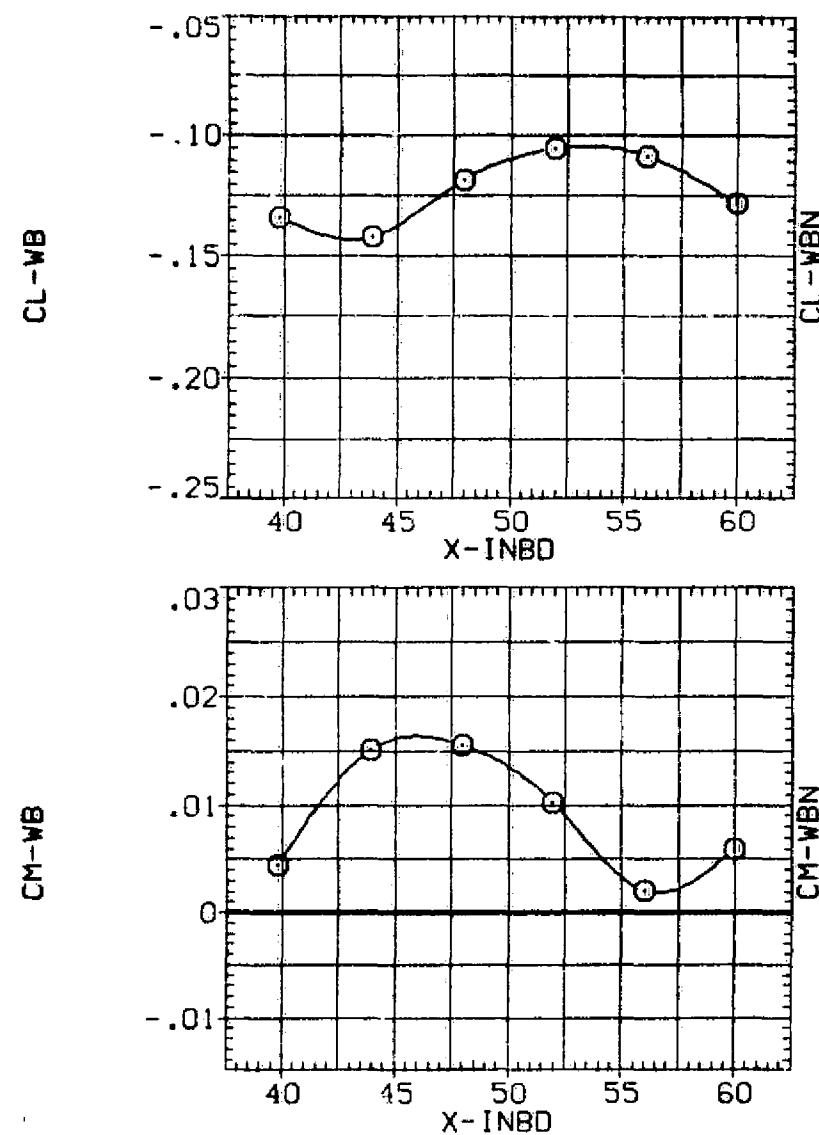


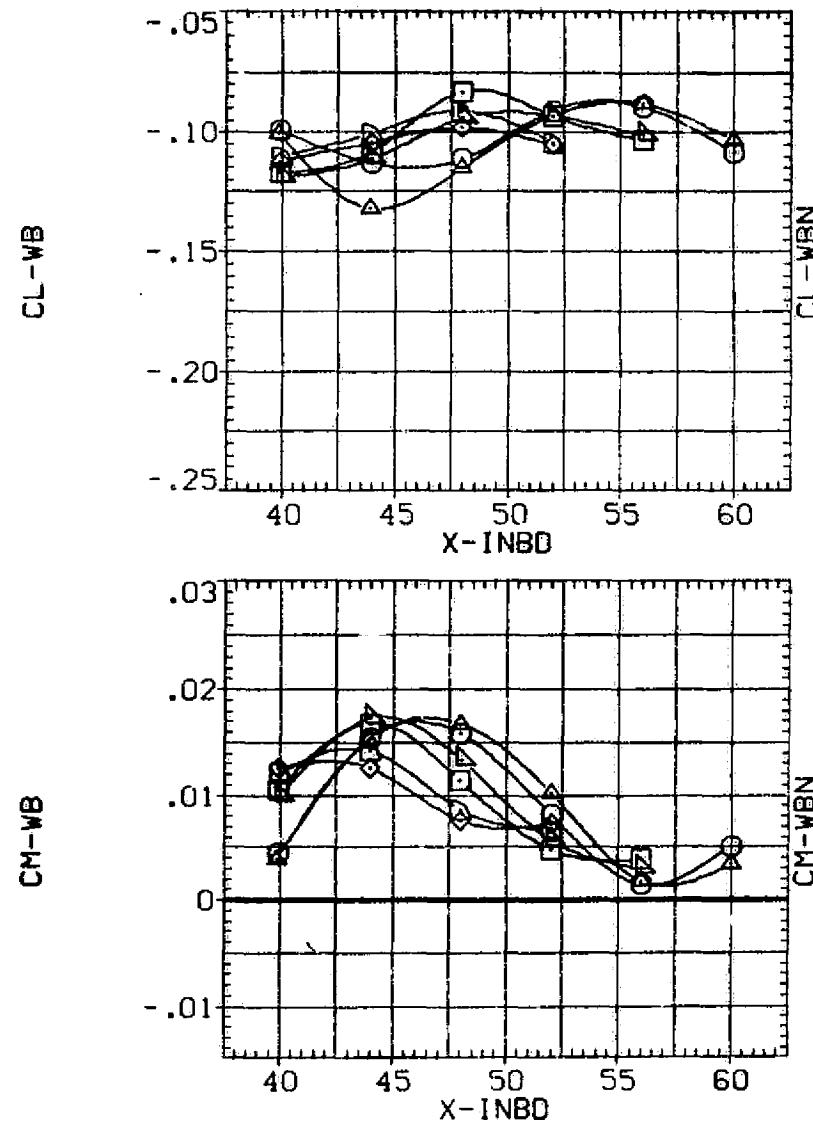
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 76

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	B N1 N1
(RAP020)	△	B N1 N1
(RAP021)	×	B N1 N1
(RAP031)	○	B N2 N2
(RAP032)	△	B N2 N2
(RAP033)	×	B N2 N2



2Y1/B 2Y0/B BX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	0.000
.250	.550	4.000
.250	.550	8.000

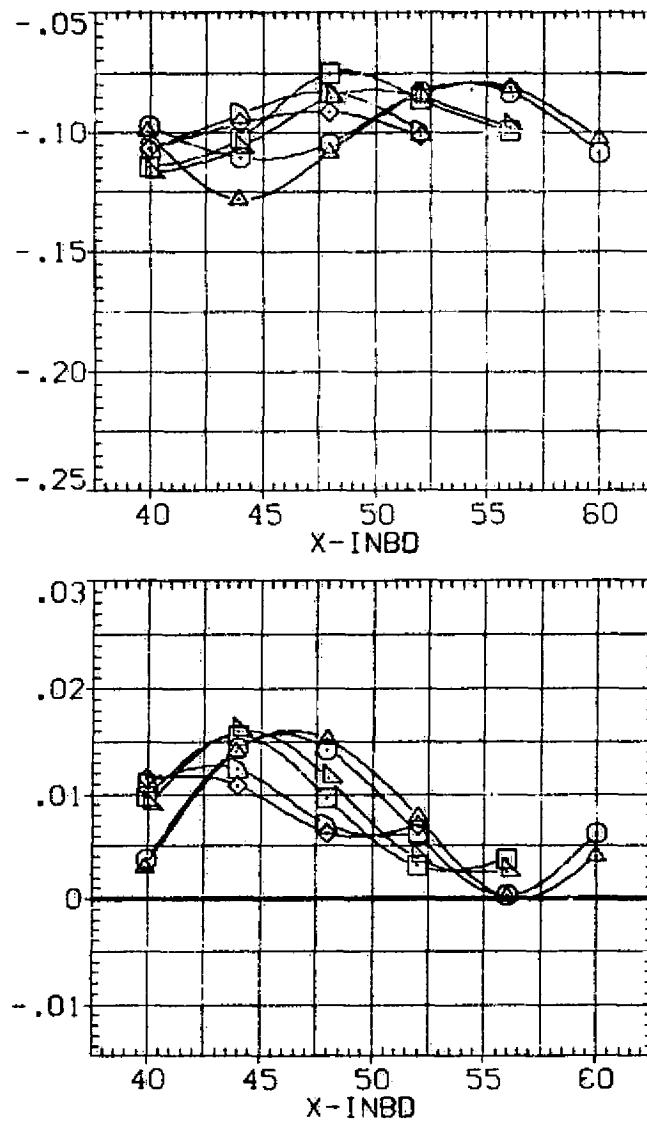


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.39

PAGE 77

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  W B NI NI
 (RAP020)  DATA NOT AVAILABLE
 (RAP021)  DATA NOT AVAILABLE
 (RAP031)  DATA NOT AVAILABLE
 (RAP032)  DATA NOT AVAILABLE
 (RAP033)  DATA NOT AVAILABLE

2Y1/B 2Y0/B BX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

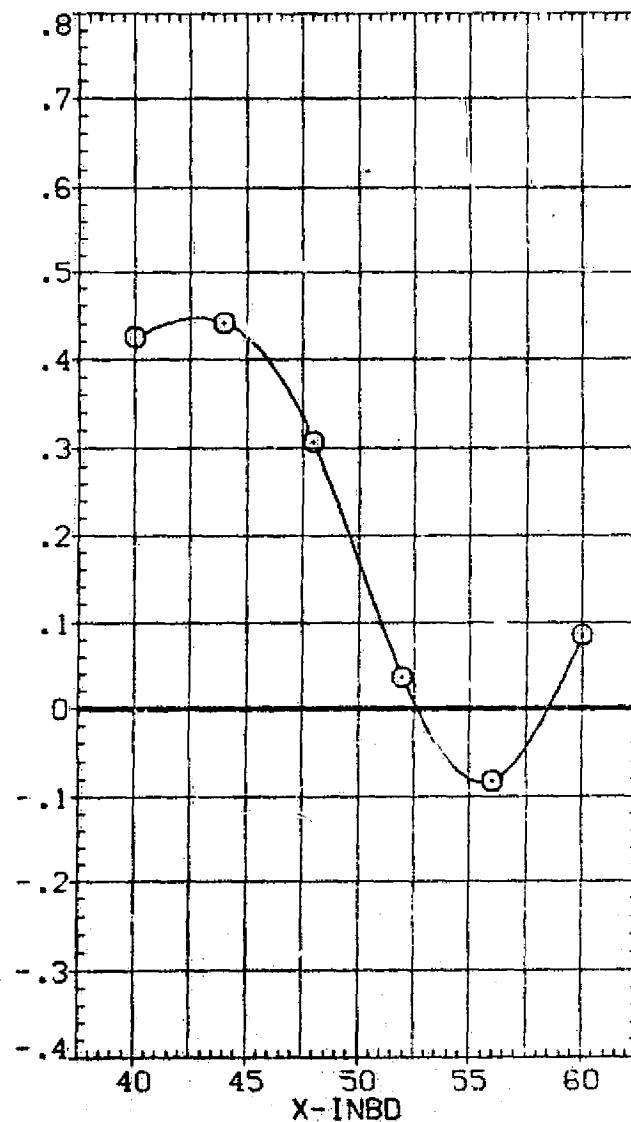
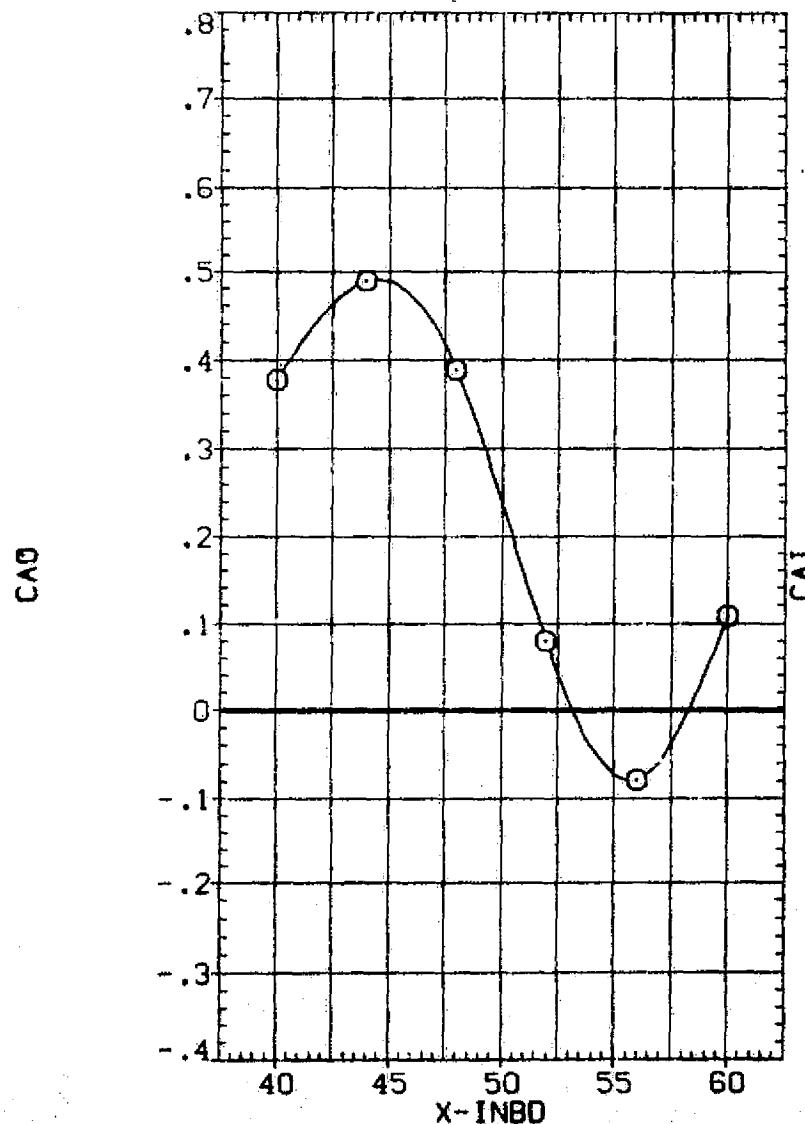


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

CAIMACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	W B N1 N1
(RAP020)	□	W B N1 N1
(RAP021)	△	W B N1 N1
(RAP031)	▽	W B N2 N2
(RAP032)	■	W B N2 N2
(RAP033)	□	W B N2 N2

2Y1/B	2Y0/B	0X
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

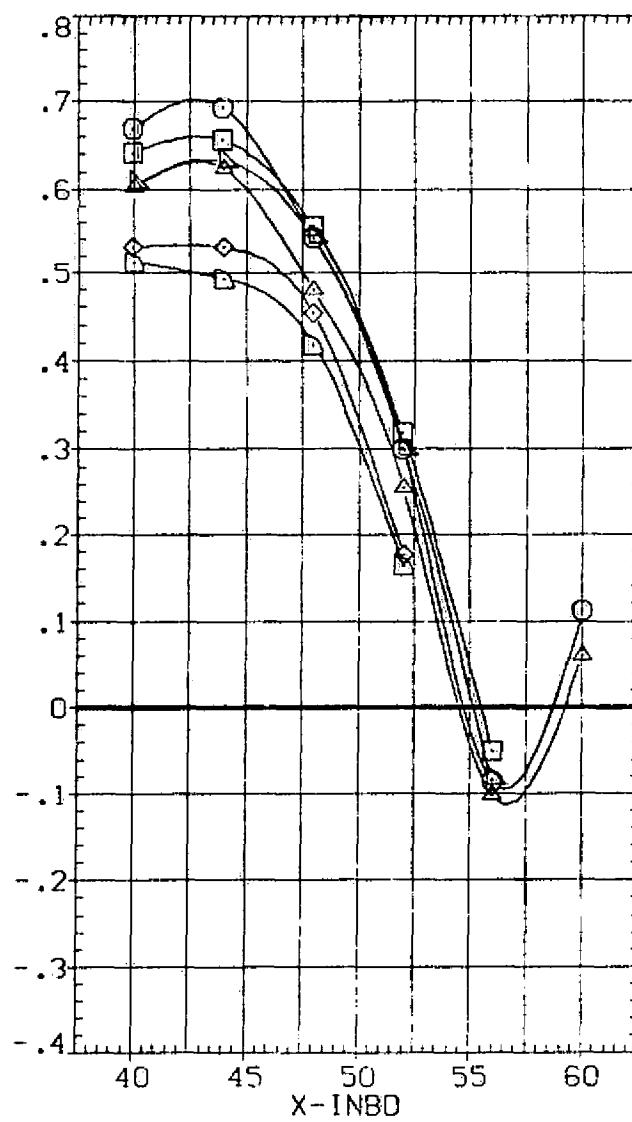
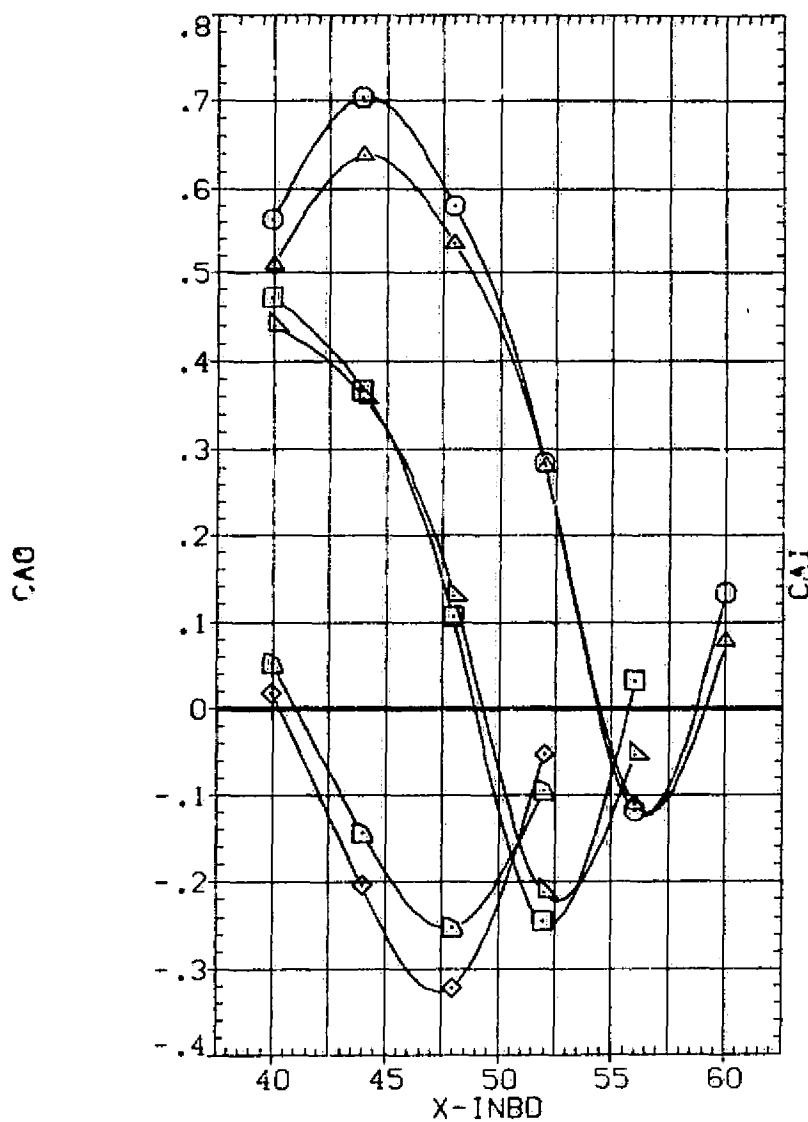


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 79

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  V B N1 N1

(RAP020)  DATA NOT AVAILABLE

(RAP021)  DATA NOT AVAILABLE

(RAP031)  DATA NOT AVAILABLE

(RAP032)  DATA NOT AVAILABLE

(RAP033)  DATA NOT AVAILABLE

2Y1/B	2Y0/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

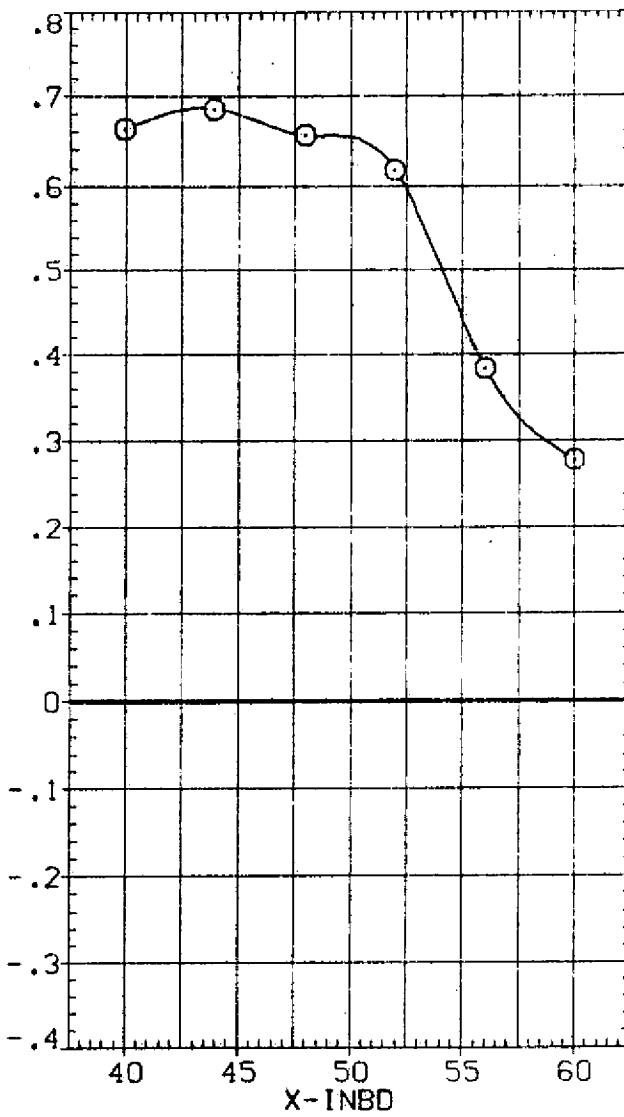
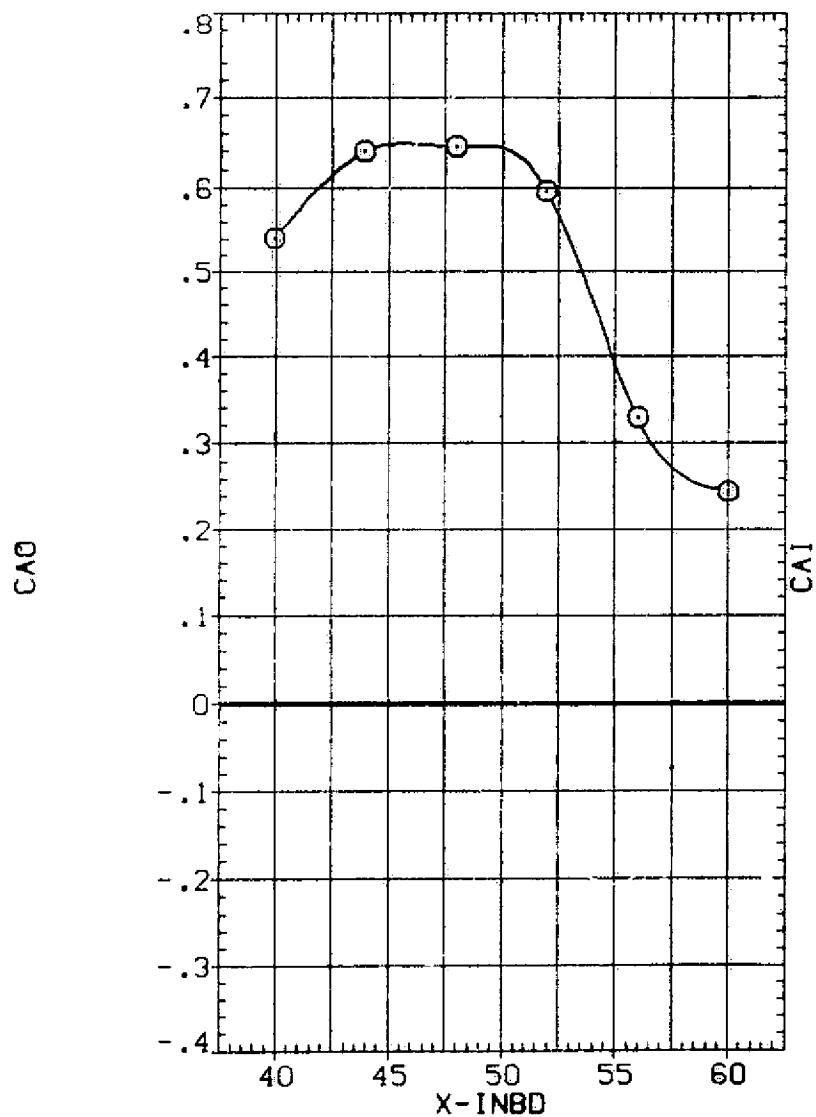


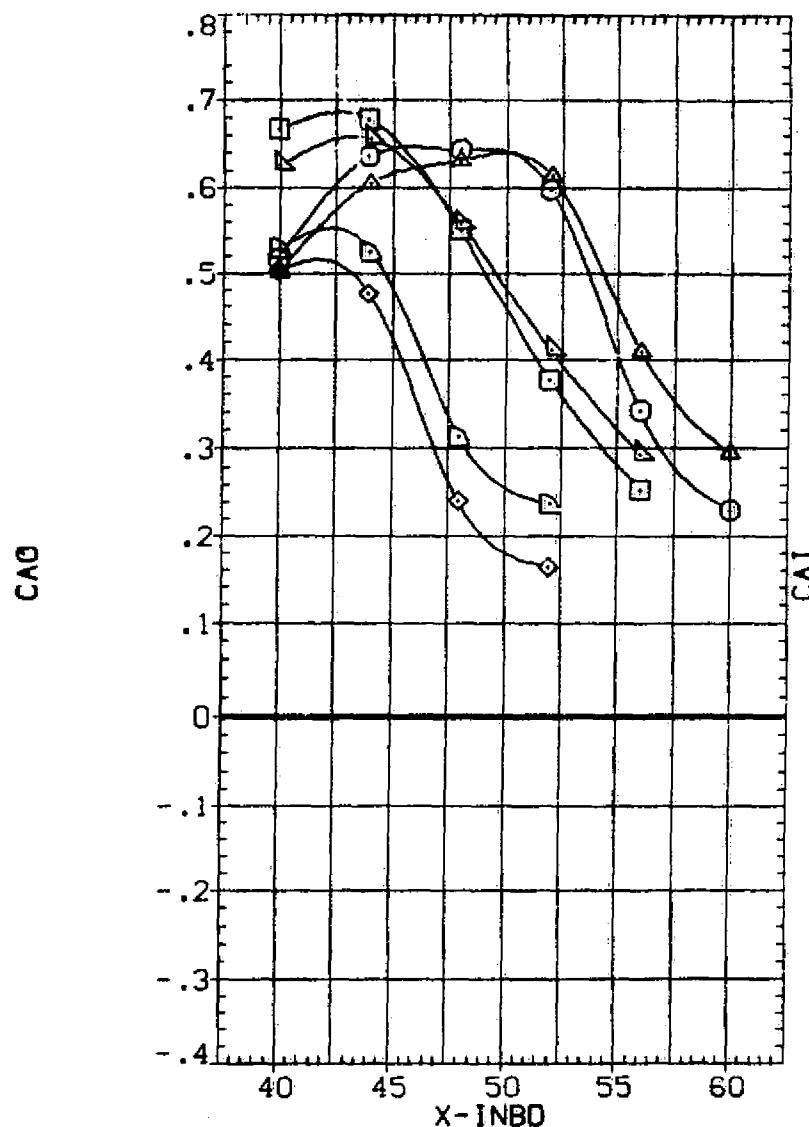
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 80

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	□	N1 N1
(RAP020)	△	N1 N1
(RAP021)	○	N1 N1
(RAP031)	□	N2 N2
(RAP032)	△	N2 N2
(RAP033)	○	N2 N2



2Y1/B 2Y0/B DK

.250	.550	.000
.250	.550	.4000
.250	.550	.8000
.250	.550	.0000
.250	.550	.4000
.250	.550	.8000

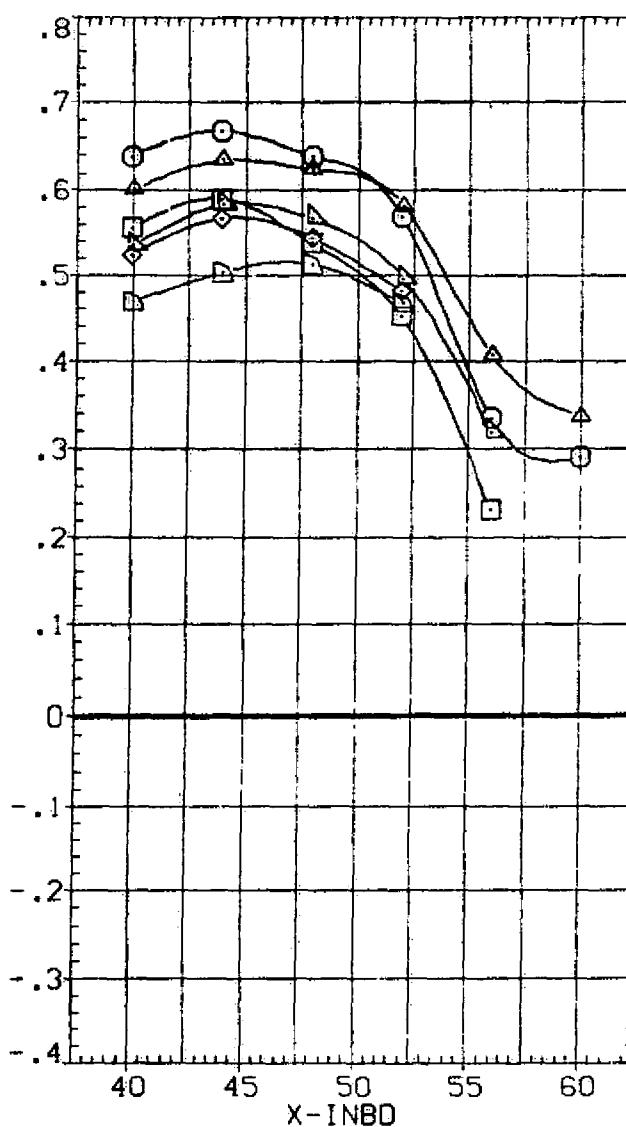


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)  V B N1 N1
 (RAP020)  DATA NOT AVAILABLE
 (RAP021)  DATA NOT AVAILABLE
 (RAP031)  DATA NOT AVAILABLE
 (RAP032)  DATA NOT AVAILABLE
 (RAP033)  DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250 .550 .000
 .250 .550 4.000
 .250 .550 8.000
 .250 .550 .000
 .250 .550 4.000
 .250 .550 8.000

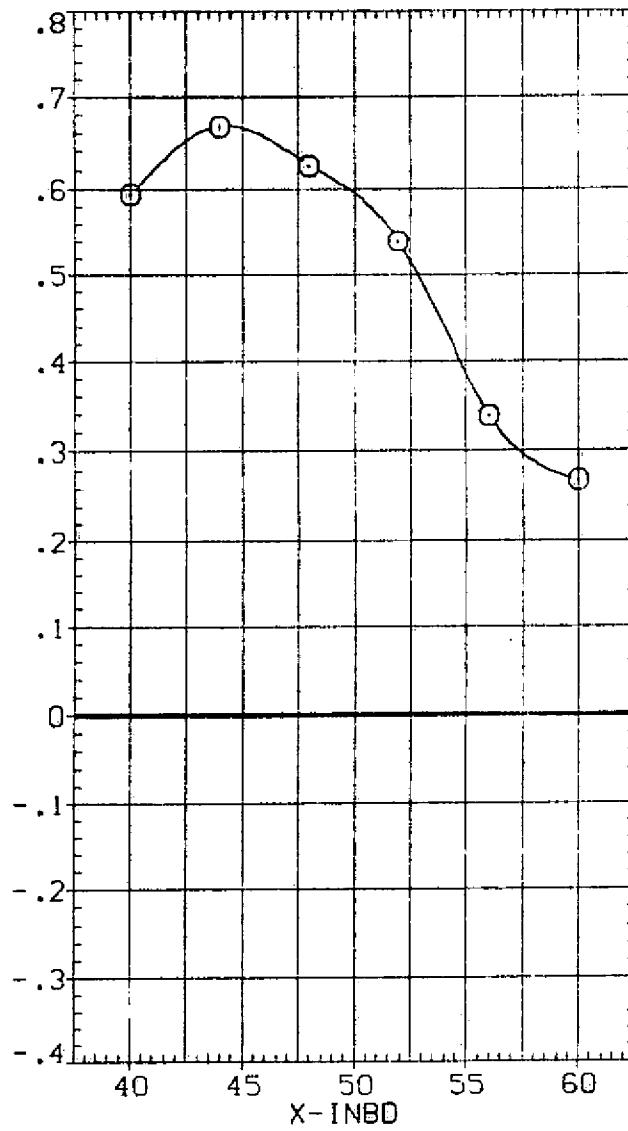
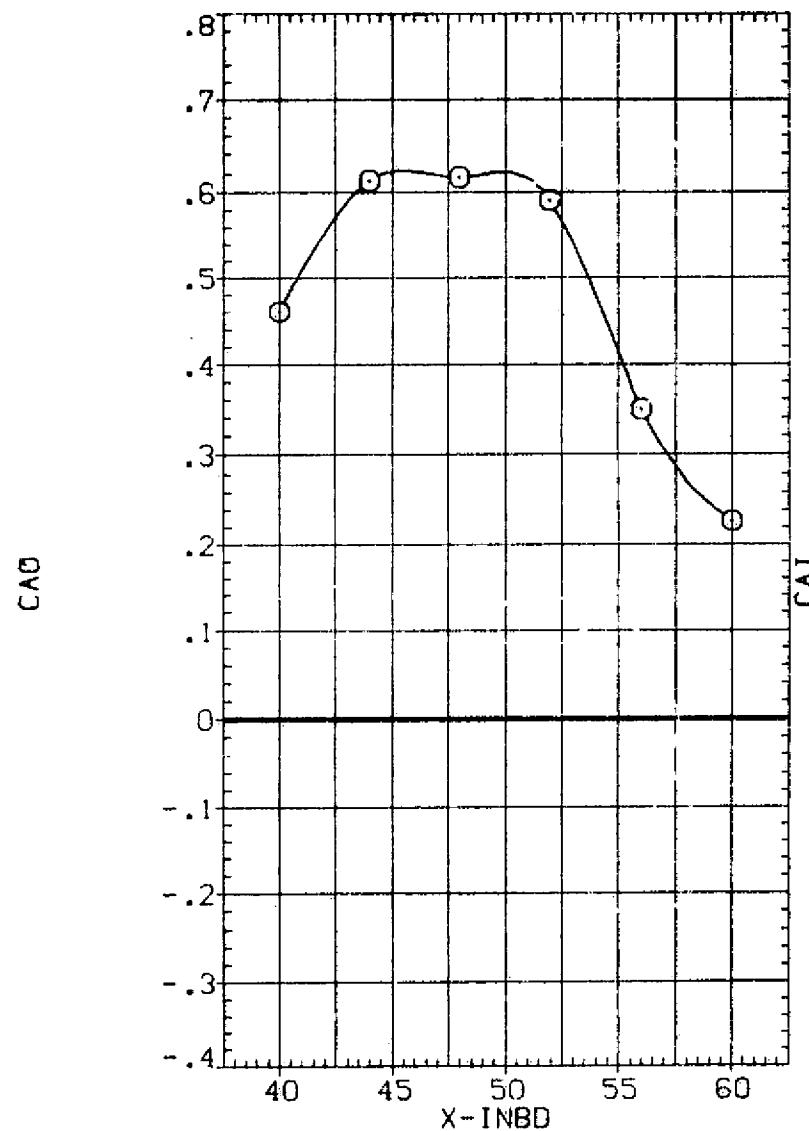


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 82

DATA SET SYMBOL CONFIGURATION DESCRIPTION

- (RAP019)  W B N1 N1
- (RAP020)  DATA NOT AVAILABLE
- (RAP021)  DATA NOT AVAILABLE
- (RAP031)  DATA NOT AVAILABLE
- (RAP032)  DATA NOT AVAILABLE
- (RAP033)  DATA NOT AVAILABLE

ZY1/B ZY0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

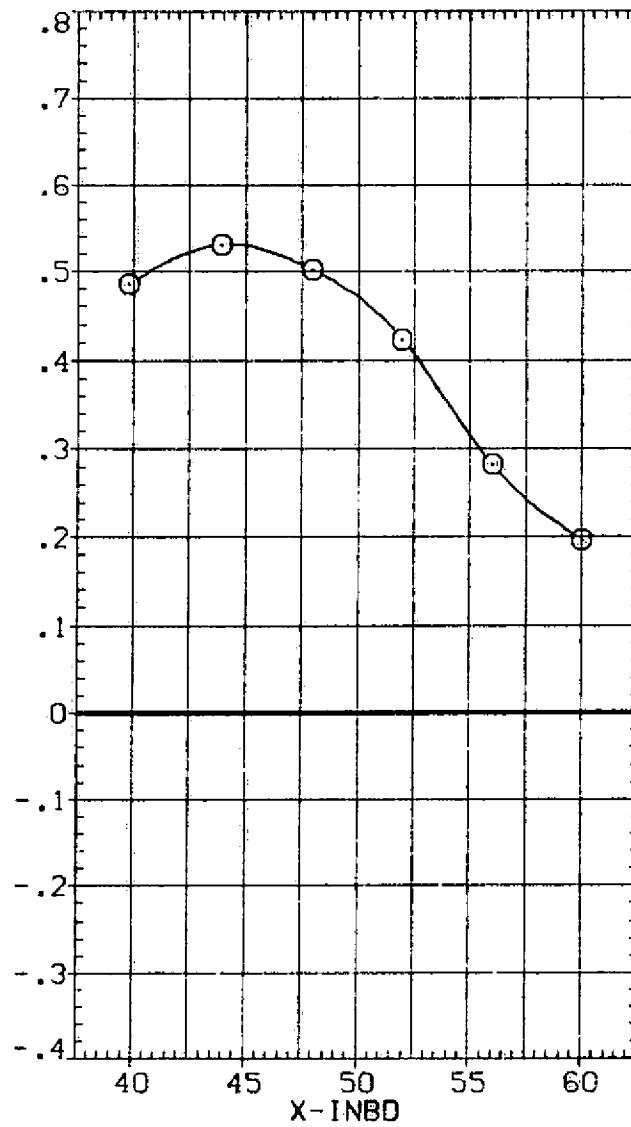
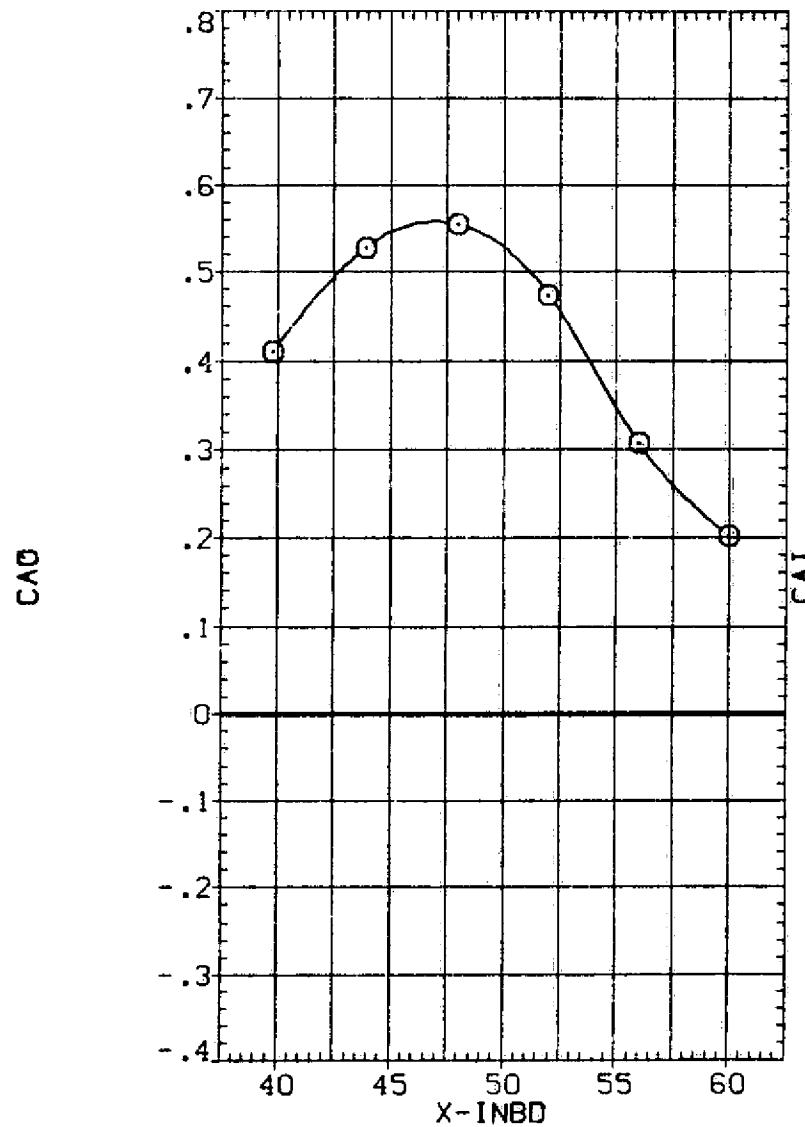


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 83

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP019)	○	W B N1 N1
(RAP020)	□	W B N1 N1
(RAP021)	×	W B N1 N1
(RAP031)	△	W B N2 N2
(RAP032)	△	W B N2 N2
(RAP033)	□	W B N2 N2

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

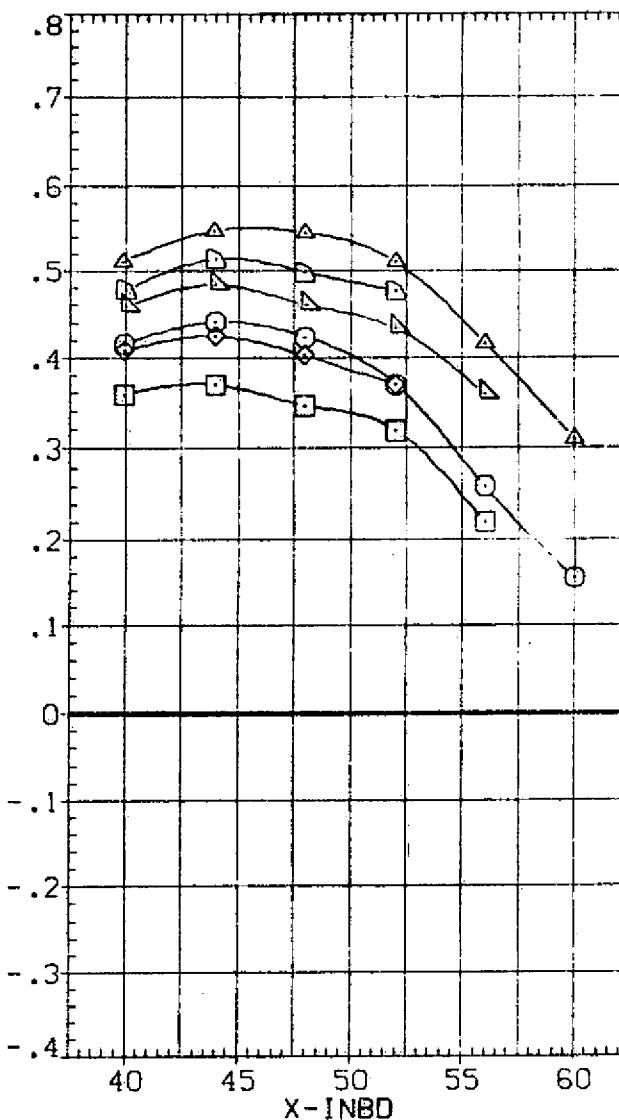
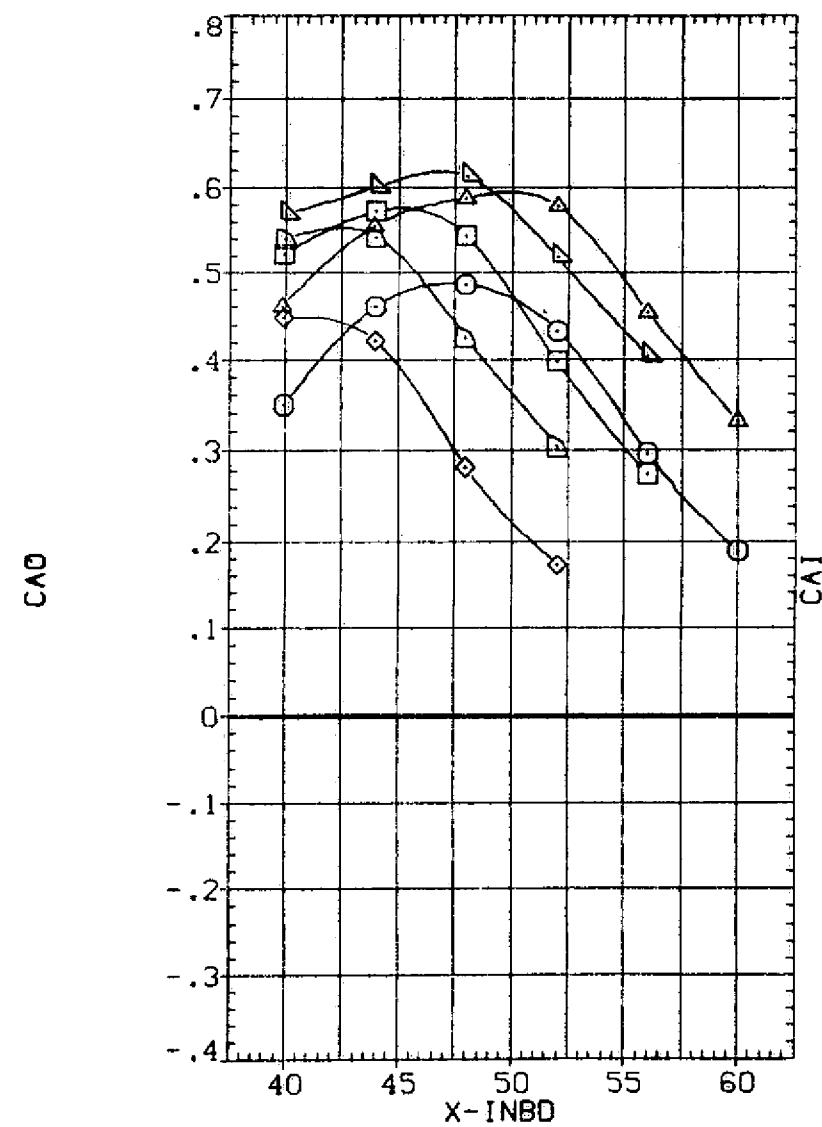


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.39

PAGE 84

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP019)	○	W B N1 N1
(BAP020)	□	DATA NOT AVAILABLE
(BAP021)	△	DATA NOT AVAILABLE
(BAP031)	◇	DATA NOT AVAILABLE
(BAP032)	□	DATA NOT AVAILABLE
(BAP033)	□	DATA NOT AVAILABLE

2Y1/B 2Y0/B 5X

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

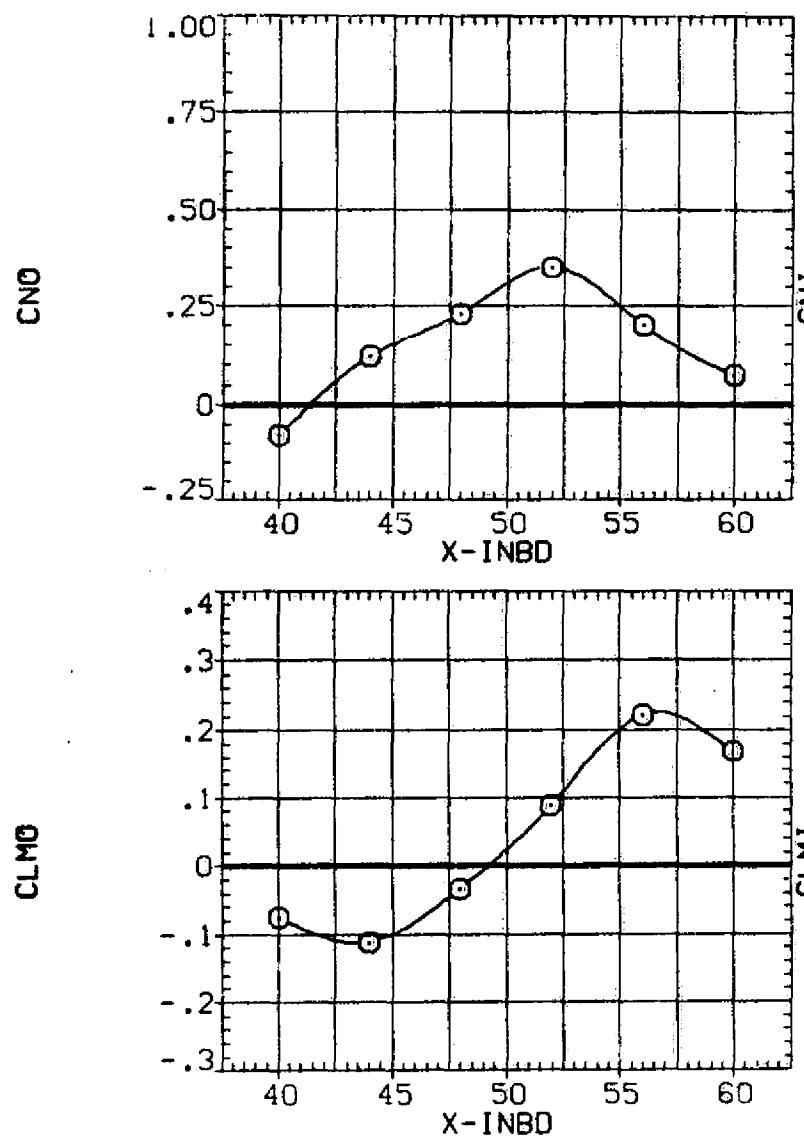


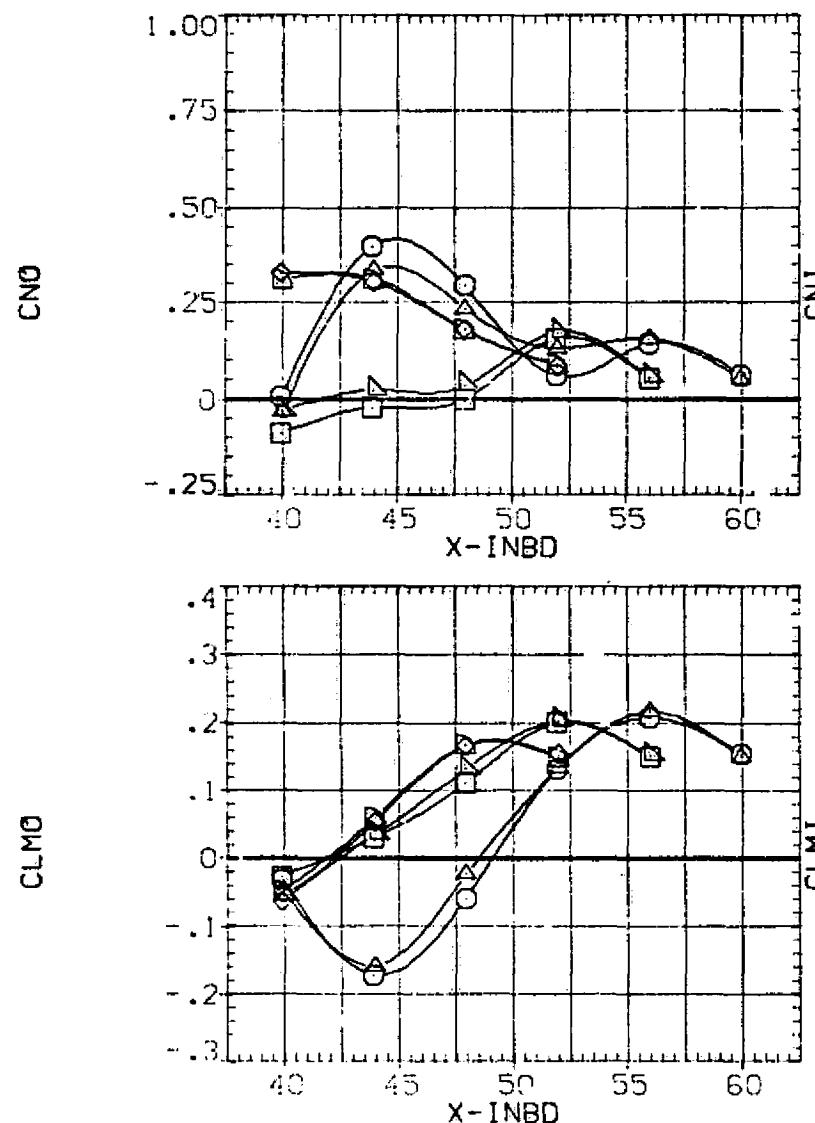
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 85

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP019)	○	W B N1 N1
(BAP020)	□	W B N1 N1
(BAP021)	◇	W B N2 N1
(BAP031)	△	W B N2 N2
(BAP032)	▽	W B N2 N2
(BAP033)	□	W B N2 N2



2Y1/B 2Y0/B DX

2Y1/B	2Y0/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

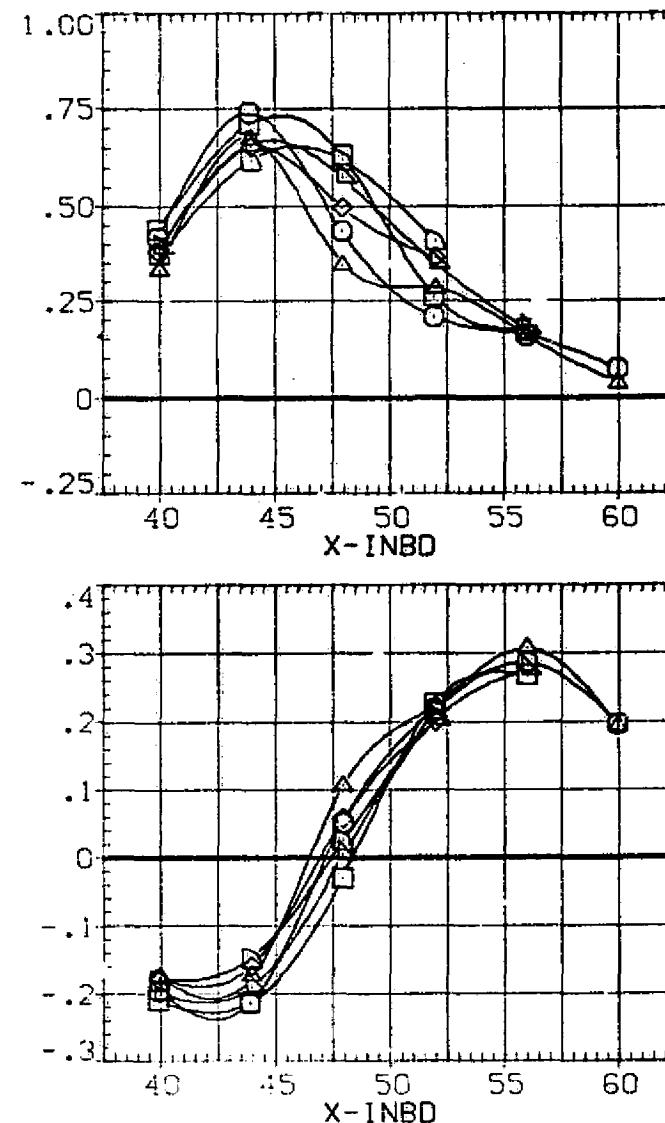


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

CBOMACH = .98

PAGE 86

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP019) W B N1 N1
 (BAP020) DATA NOT AVAILABLE
 (BAP021) DATA NOT AVAILABLE
 (BAP031) DATA NOT AVAILABLE
 (BAP032) DATA NOT AVAILABLE
 (BAP033) DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

2Y1/B	2Y0/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

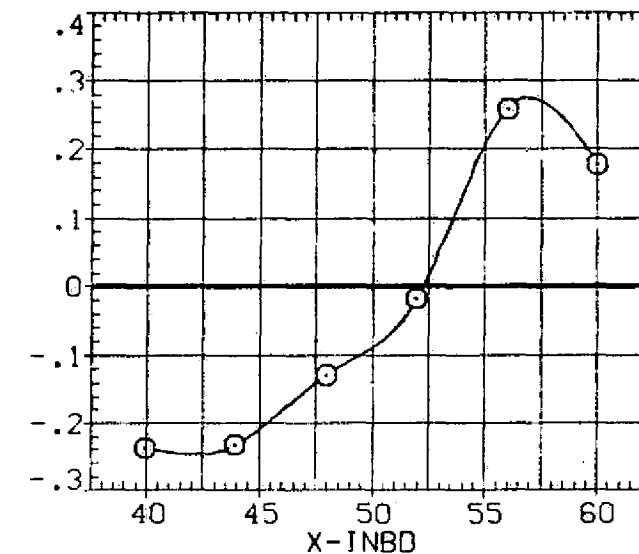
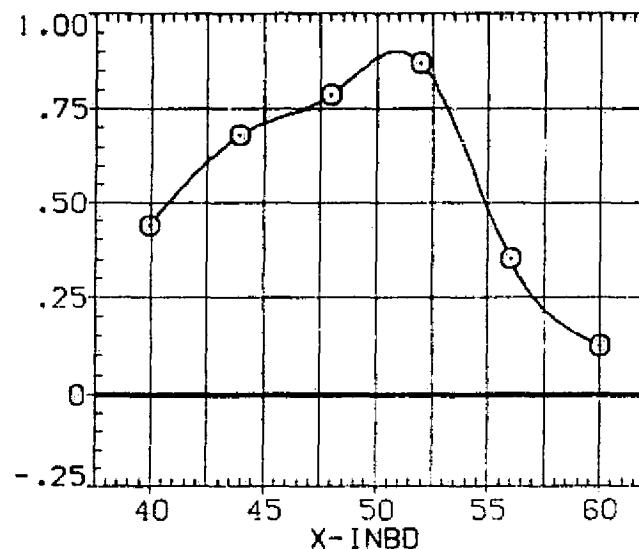
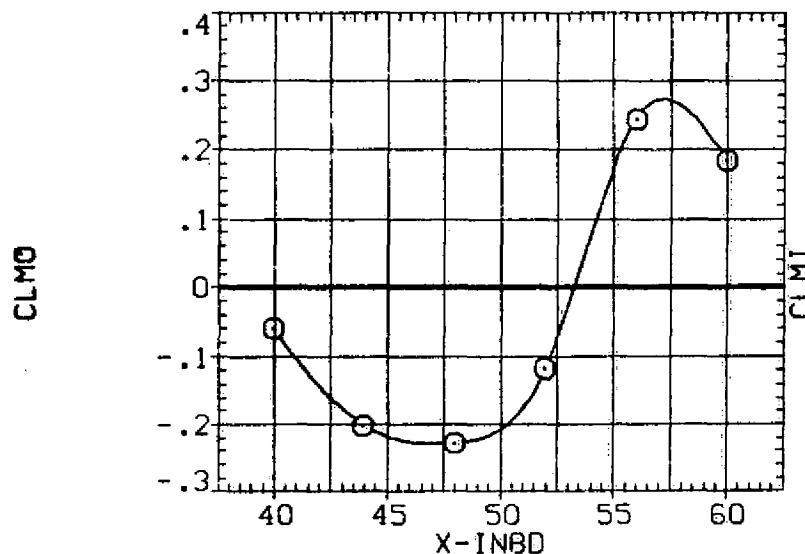
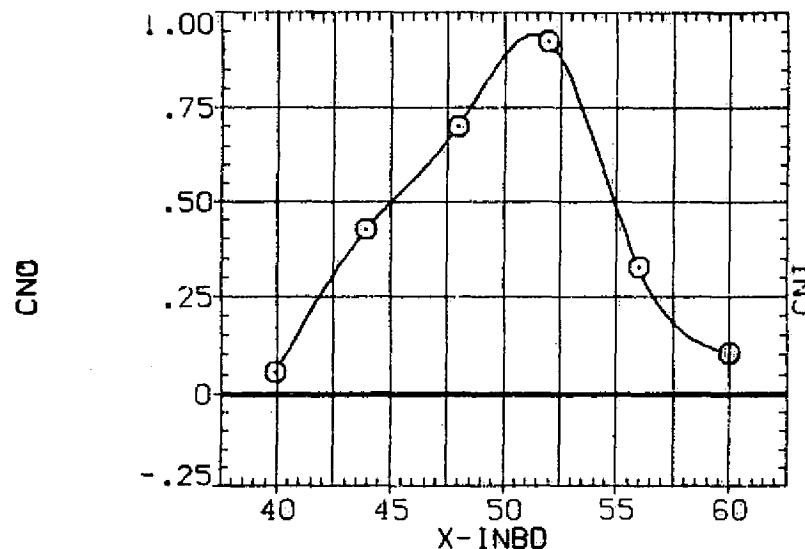


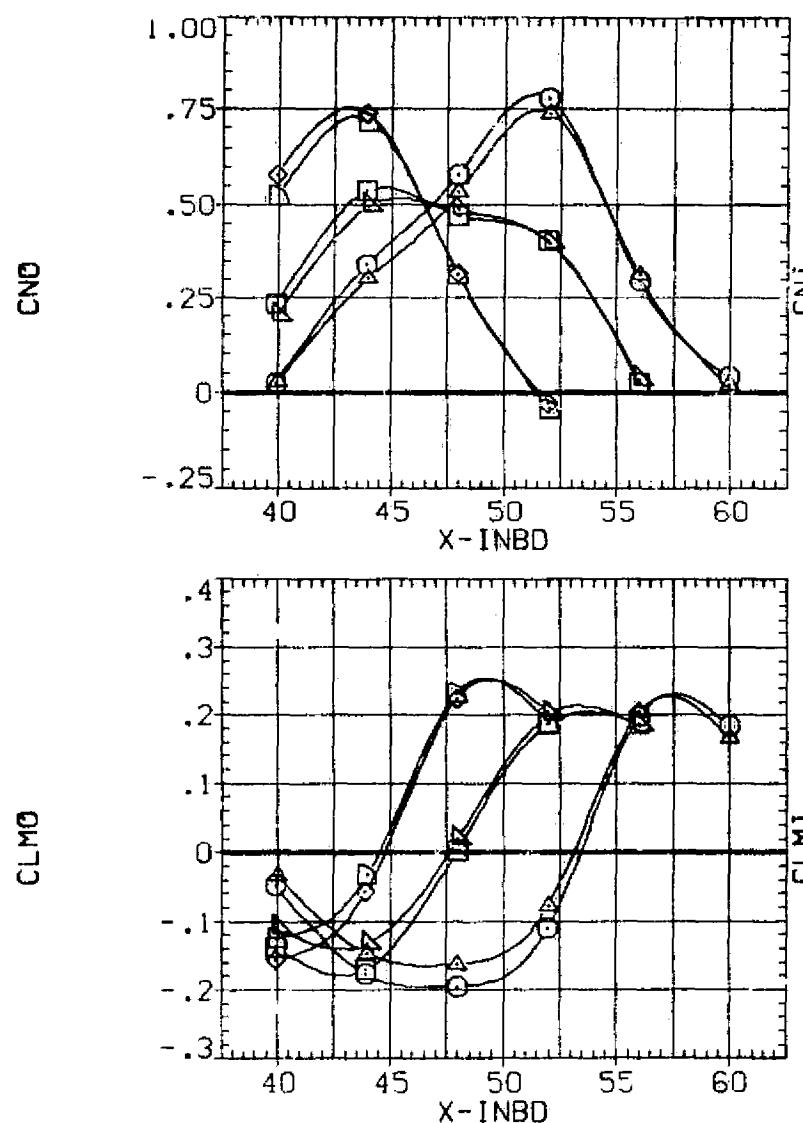
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 87

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BAP019]	□	W B N1 N1
[BAP020]	○	W B N1 N1
[BAP021]	△	W B N1 N1
[BAP031]	×	W B N2 N2
[BAP032]	×	W B N2 N2
[BAP033]	△	W B N2 N2



ZY1/B ZY0/B DX

ZY1/B	ZY0/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

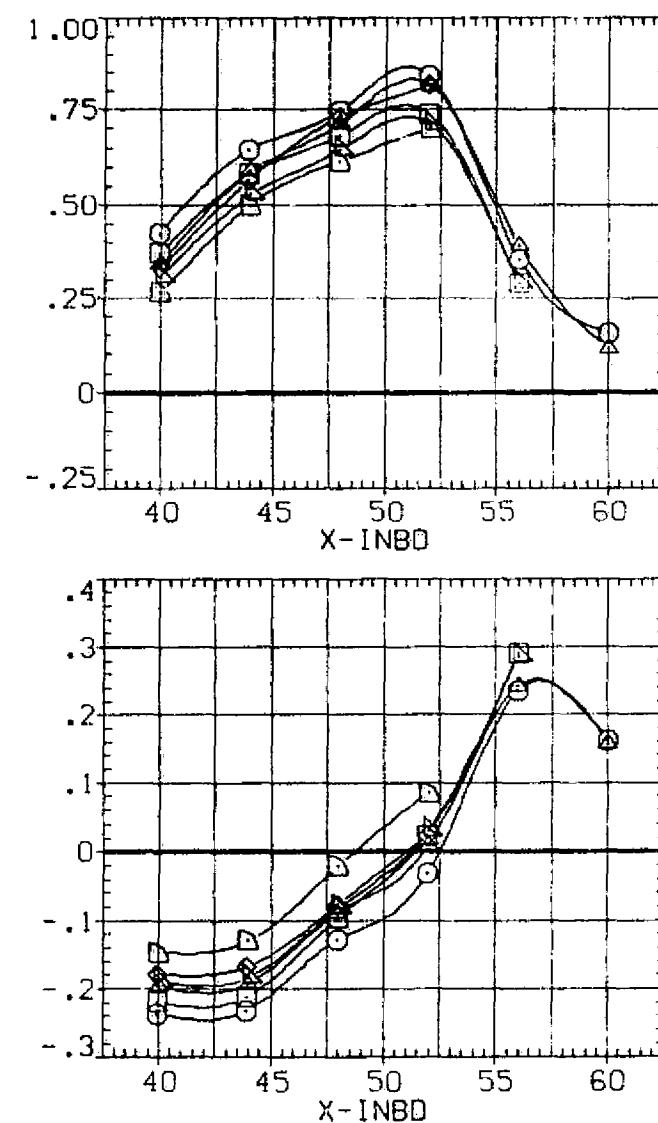


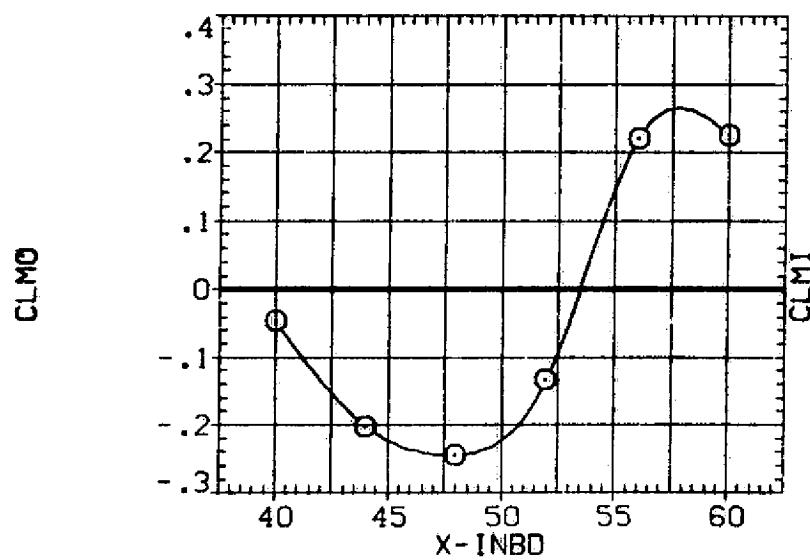
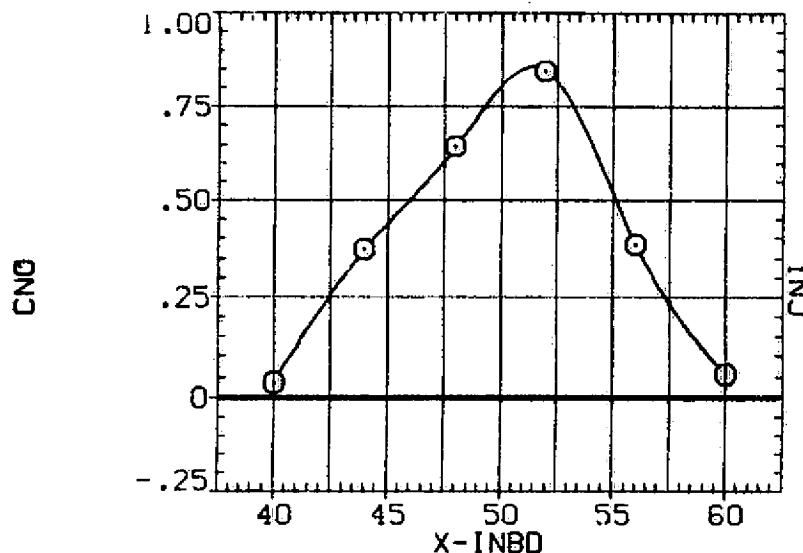
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 88

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BAP019]	△	B NI NI
[BAP020]	□	DATA NOT AVAILABLE
[BAP021]	△	DATA NOT AVAILABLE
[BAP031]	△	DATA NOT AVAILABLE
[BAP032]	□	DATA NOT AVAILABLE
[BAP033]	△	DATA NOT AVAILABLE



2Y1/B 2Y6/B DX

2Y1/B	2Y6/B	DX
.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

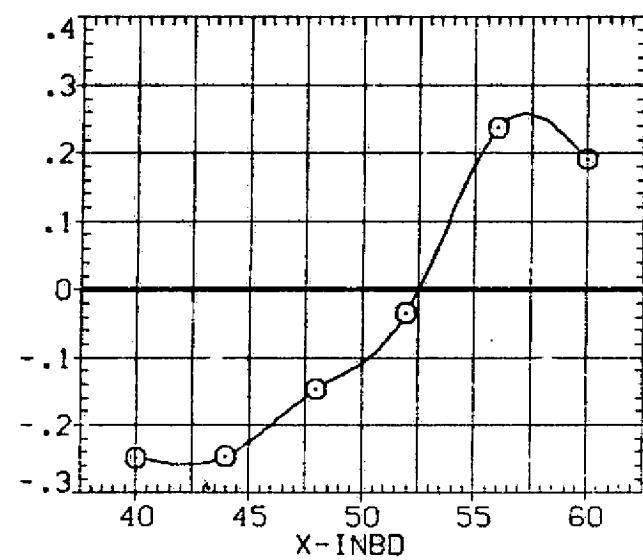
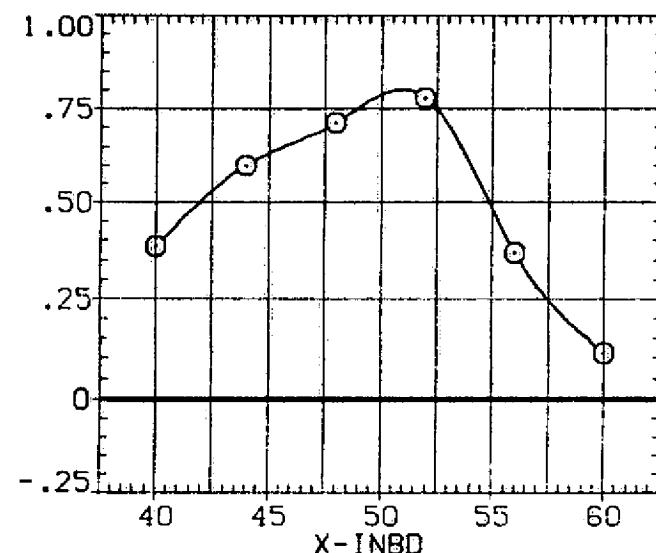


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 89

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP019) DATA NOT AVAILABLE

(BAP020) DATA NOT AVAILABLE

(BAPU21) DATA NOT AVAILABLE

(BAP031) DATA NOT AVAILABLE

(BAP032) DATA NOT AVAILABLE

(BAP033) DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250 .550 .000

.250 .550 4.000

.250 .550 8.000

.250 .550 .000

.250 .550 4.000

.250 .550 8.000

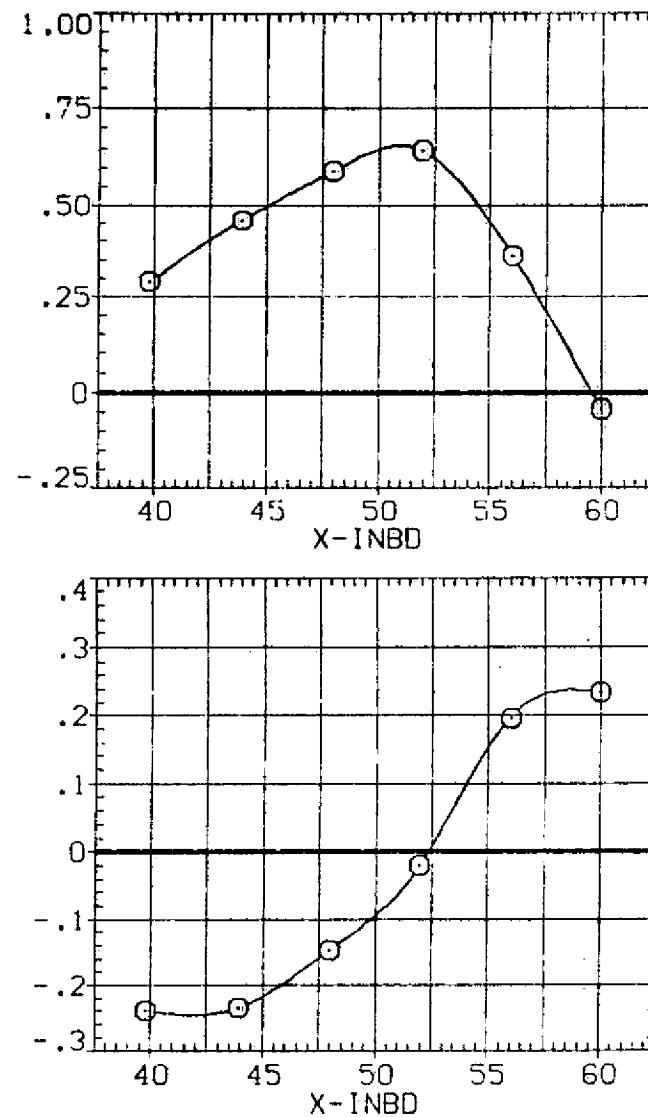
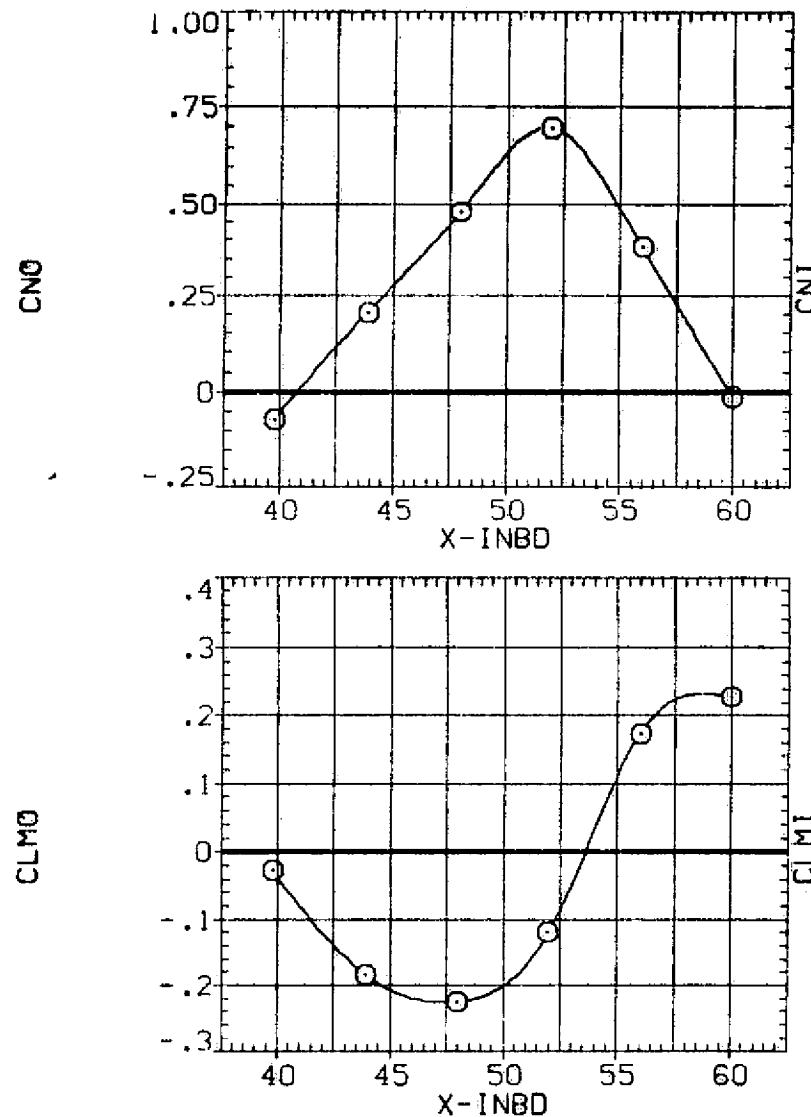


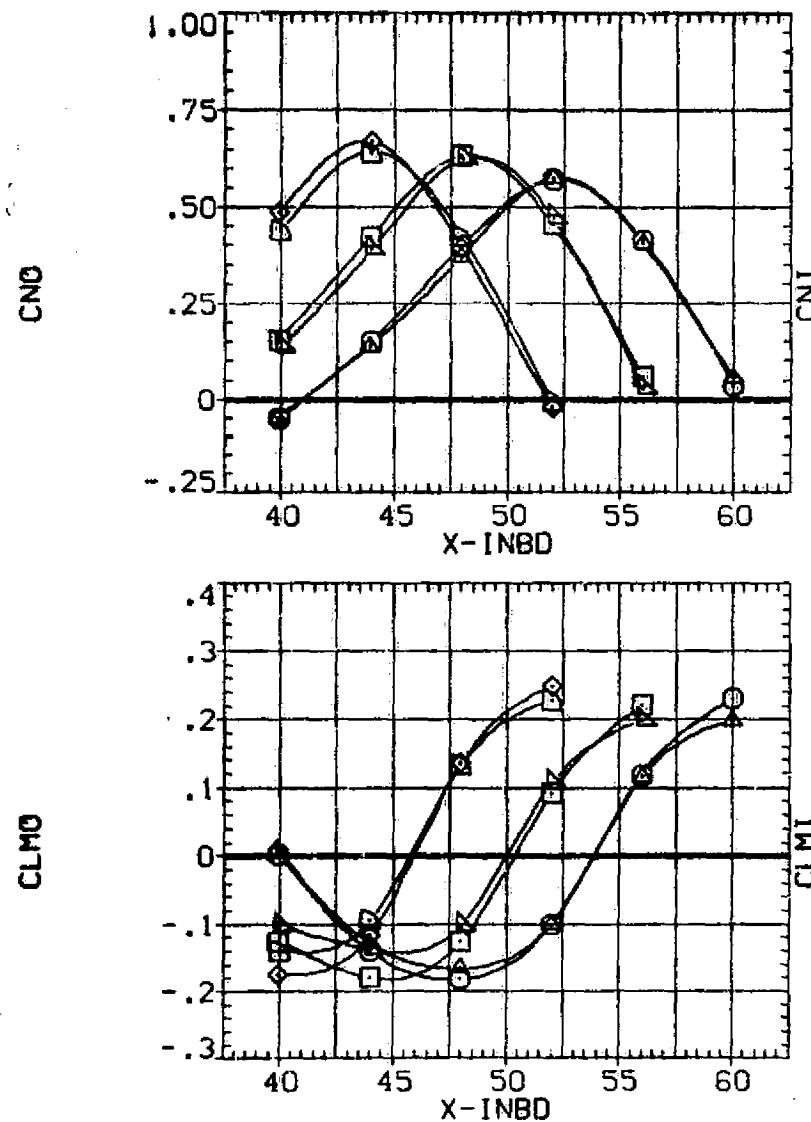
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP019)	W B N1 N1
(BAP020)	V B N1 N1
(BAP021)	V B N1 N1
(BAP031)	V B N2 N2
(BAP032)	V B N2 N2
(BAP033)	V B N2 N2



2Y1/B 2Y0/B BX

2Y1/B	2Y0/B	BX
.250	.550	0.000
.250	.550	4.000
.250	.550	8.000
.250	.550	1.000
.250	.550	4.000
.250	.550	8.000

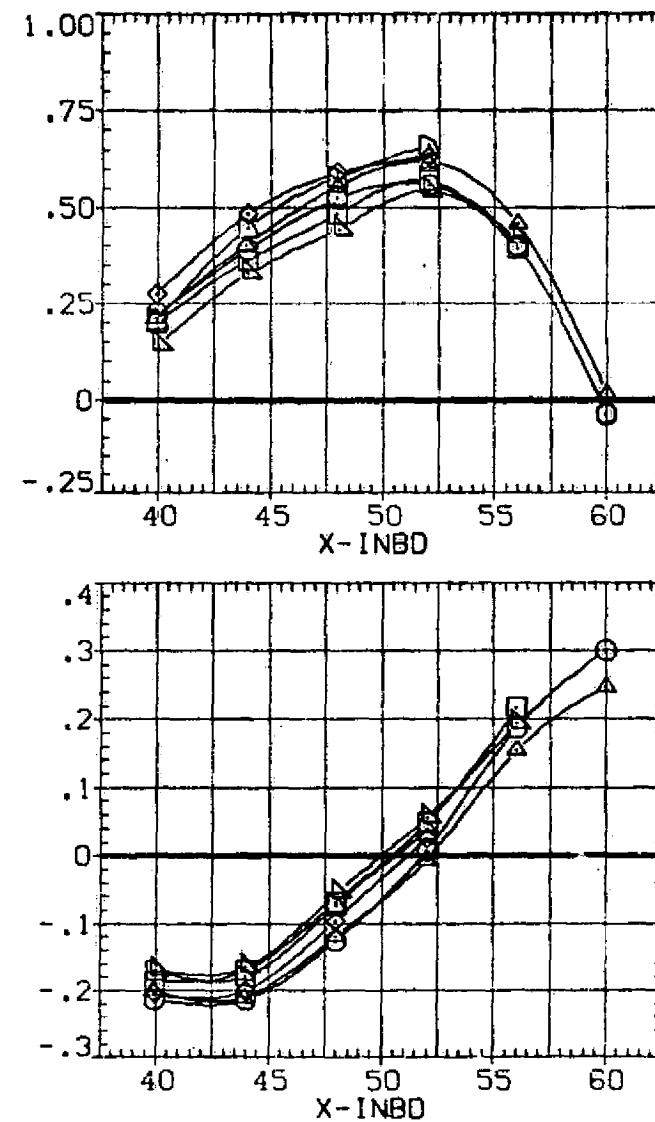


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.39

PAGE 91

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO19)	○	W B NII NII
(BAPO20)	□	DATA NOT AVAILABLE
(BAPO21)	◇	DATA NOT AVAILABLE
(BAPO31)	△	DATA NOT AVAILABLE
(BAPO32)	×	DATA NOT AVAILABLE
(BAPO33)	□	DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

250	.550	.000
250	.550	4.000
250	.550	8.000
250	.550	.000
250	.550	4.000
250	.550	8.000

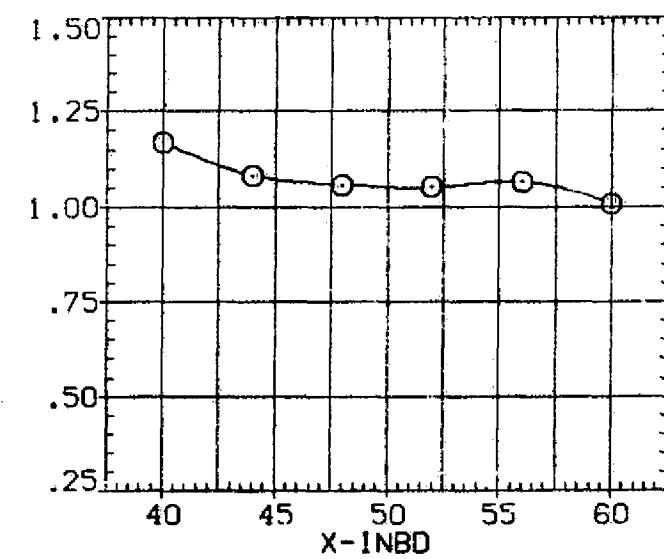
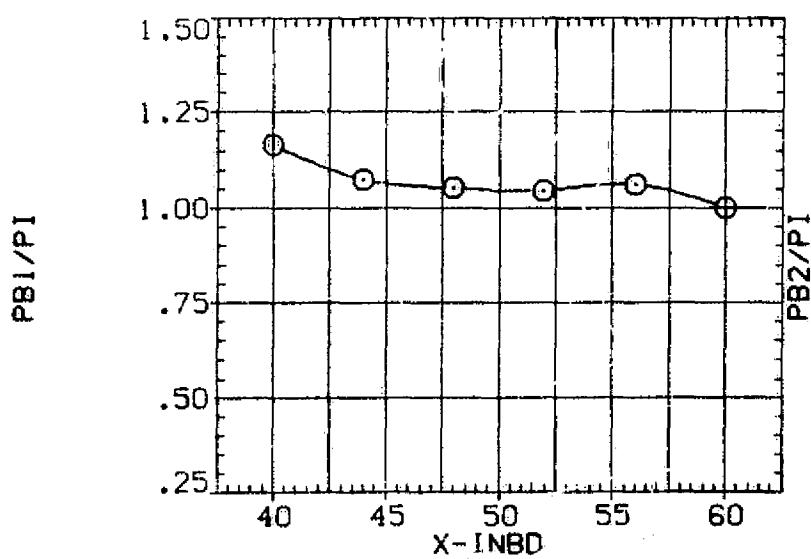
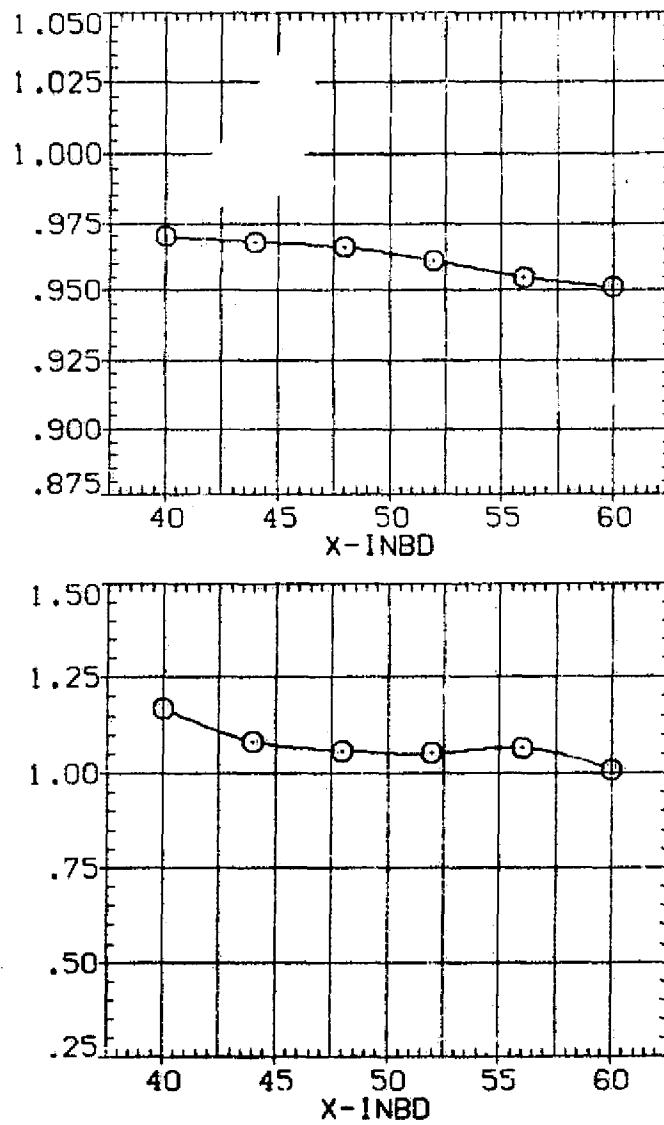
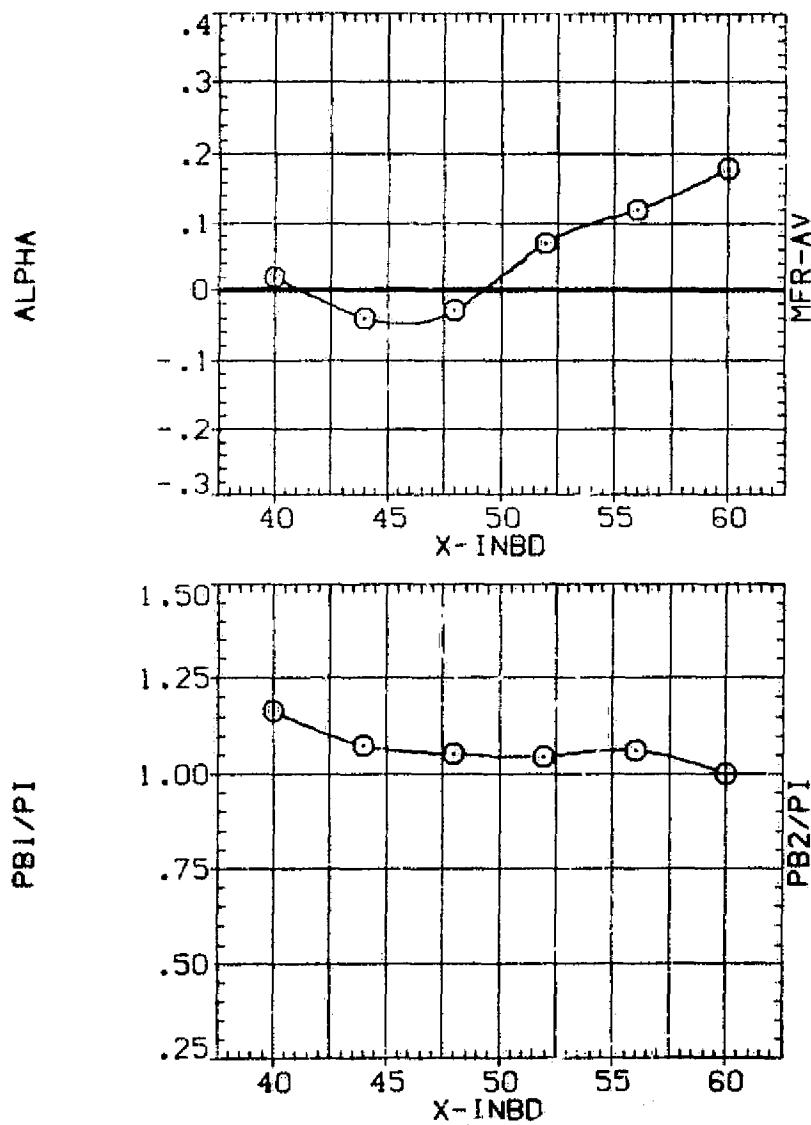


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

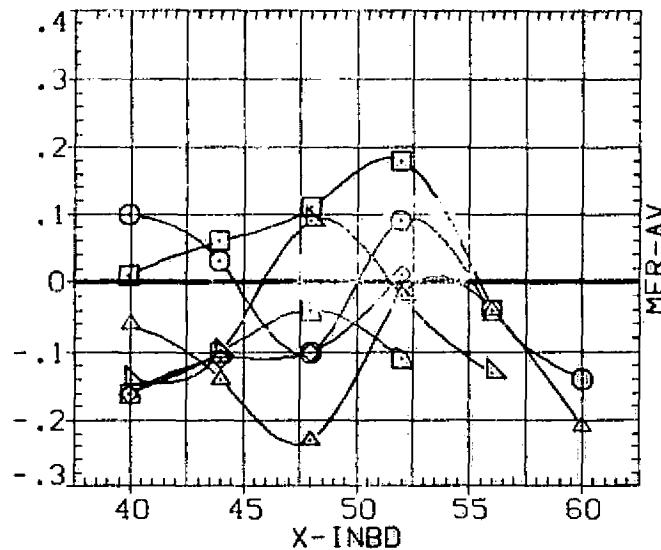
(A)MACH = .90

PAGE 92

DATA SET SYMBOL CONFIGURATION DESCRIPTION

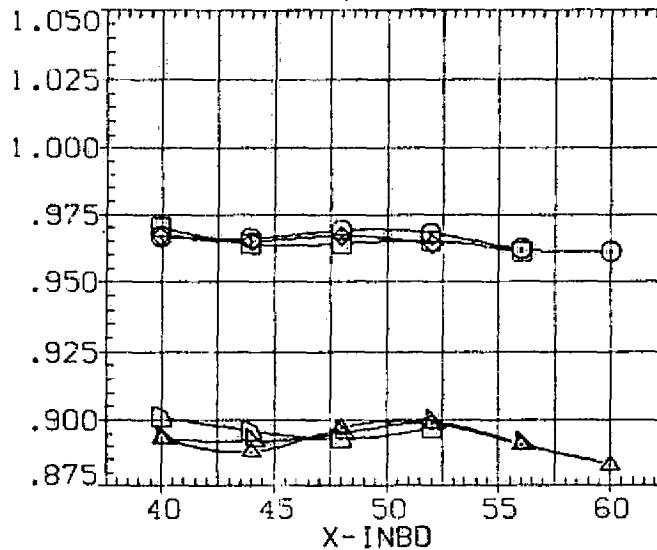
(BAPO19)	○	B NI NI
(BAPO20)	△	B NI NI
(BAPO21)	□	B NI NI
(BAPO31)	△	B N2 N2
(BAPO32)	○	B N2 N2
(BAPO33)	□	B N2 N2

ALPHA



2Y1/E 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000



PB1/PI

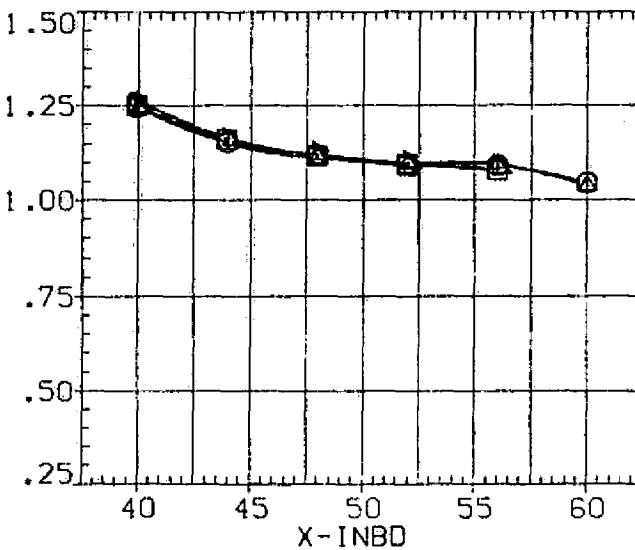
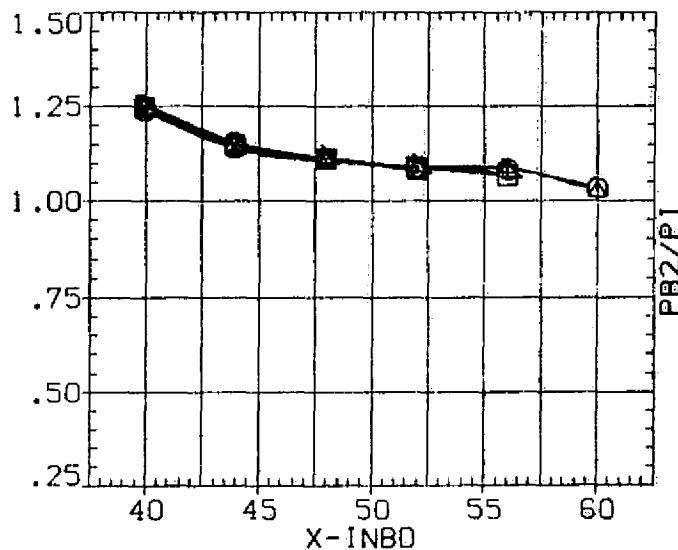


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 93

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO19) W B N1 N1
 (BAPO20) DATA NOT AVAILABLE
 (BAPO21) DATA NOT AVAILABLE
 (BAPO31) DATA NOT AVAILABLE
 (BAPO32) DATA NOT AVAILABLE
 (BAPO33) DATA NOT AVAILABLE

2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

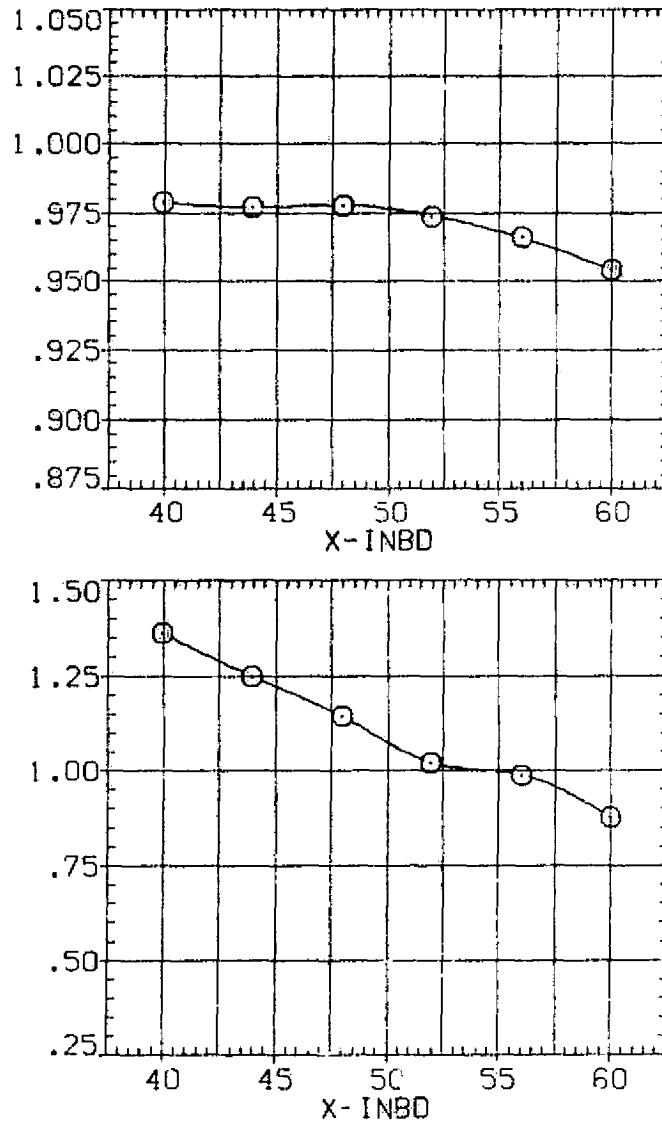
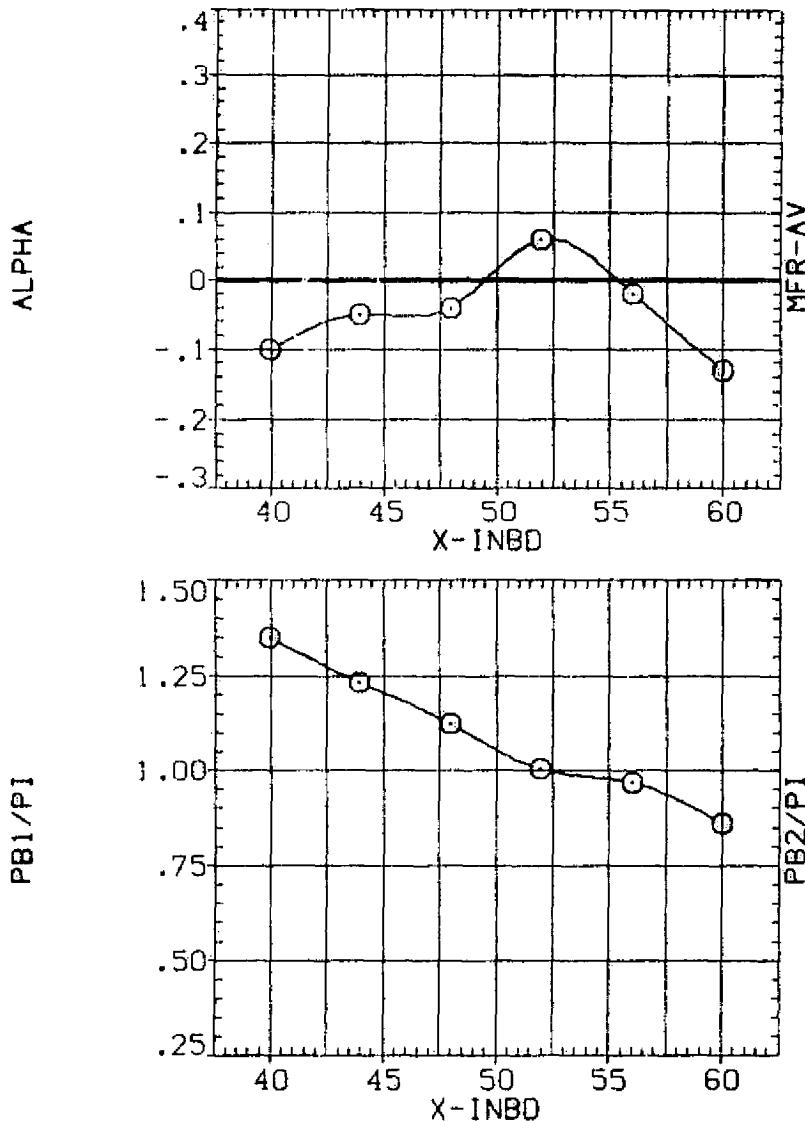


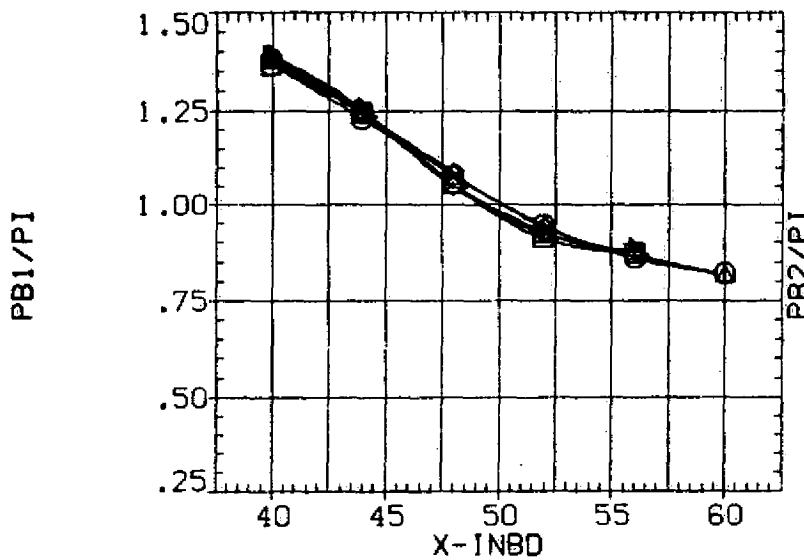
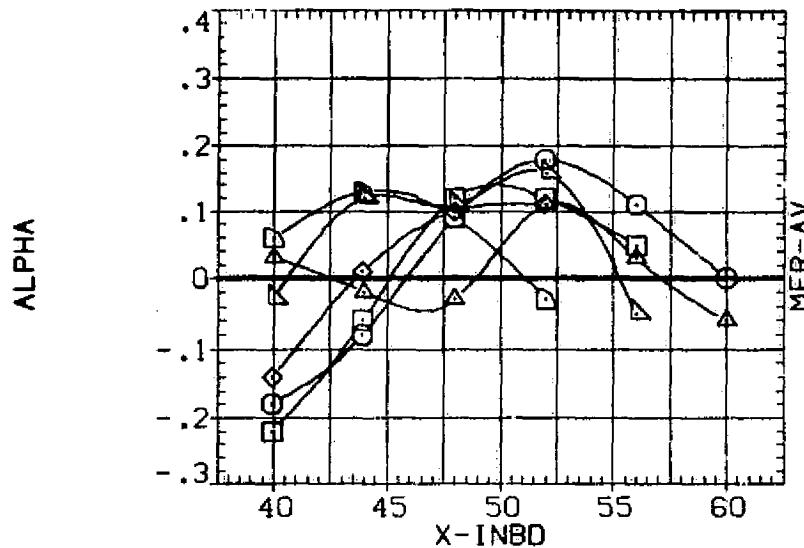
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 94

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO19)	□	B N1 N1
(BAPO20)	△	B N1 N1
(BAPO21)	◆	B N1 N1
(BAPO31)	◆	B N2 N2
(BAPO32)	△	B N2 N2
(BAPO33)	□	B N2 N2



2Y1/B 2Y0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	12.000
.250	.550	16.000
.250	.550	20.000

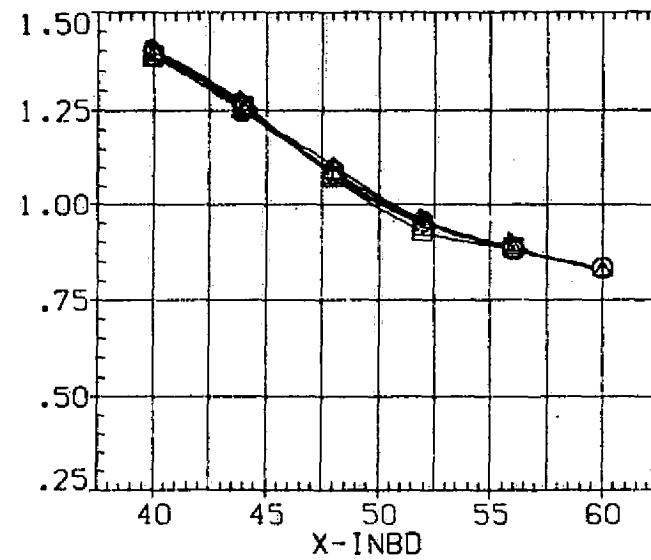
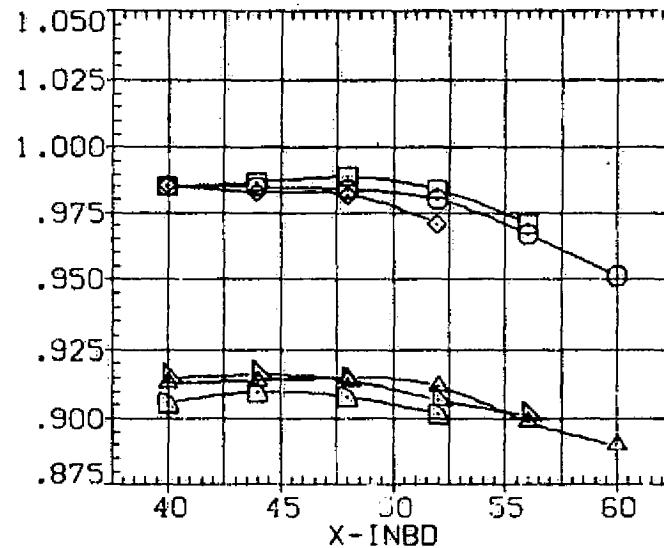


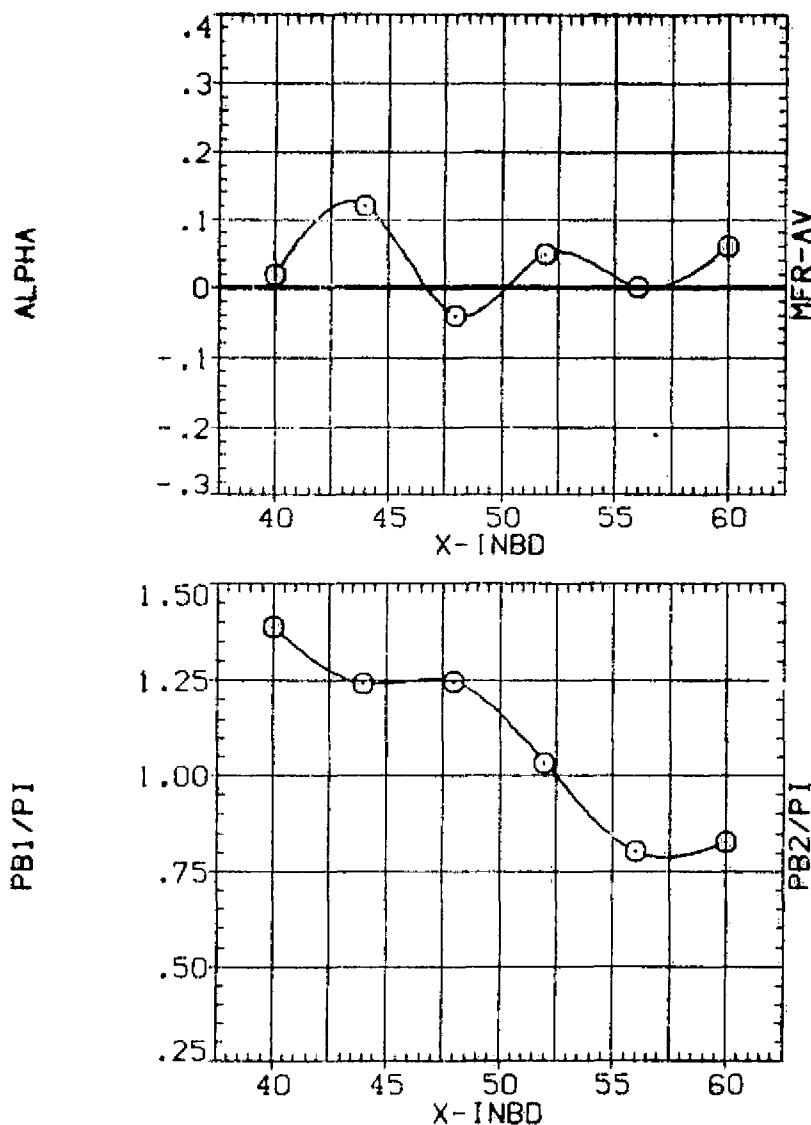
FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 95

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO19)	○	W B N1 N1
(BAPO20)	○	DATA NOT AVAILABLE
(BAPO21)	○	DATA NOT AVAILABLE
(BAPO31)	○	DATA NOT AVAILABLE
(BAPO32)	○	DATA NOT AVAILABLE
(BAPO33)	○	DATA NOT AVAILABLE



2Y1/B 2Y0/B DX

250	.550	.000
250	.550	4.000
250	.550	8.000
250	.550	.000
250	.550	4.000
250	.550	8.000

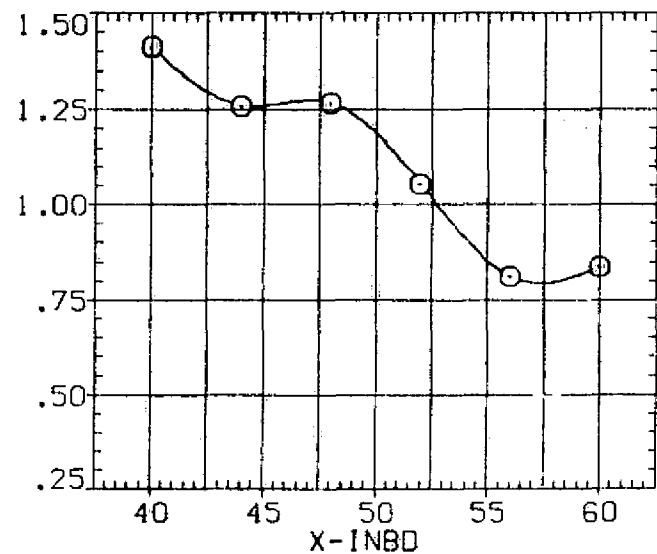
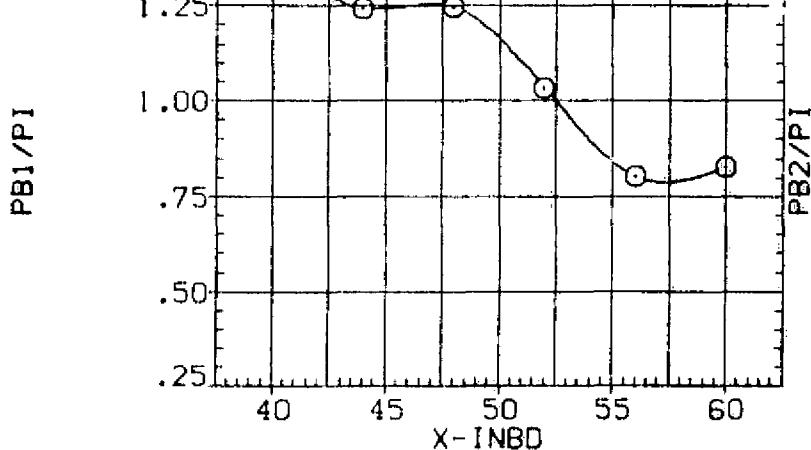
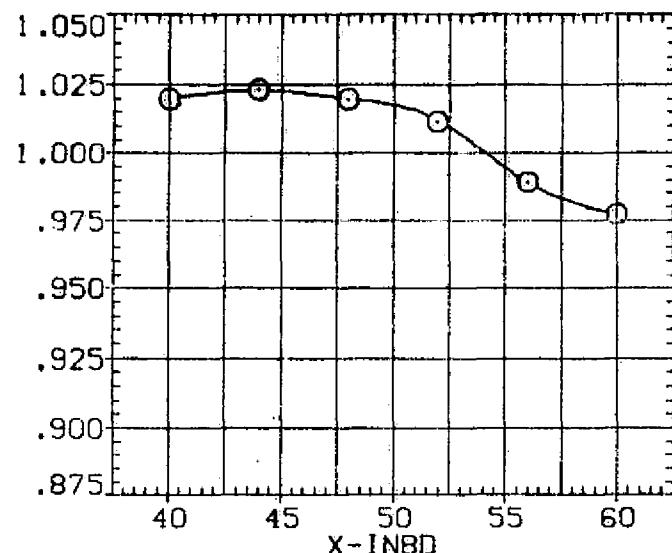
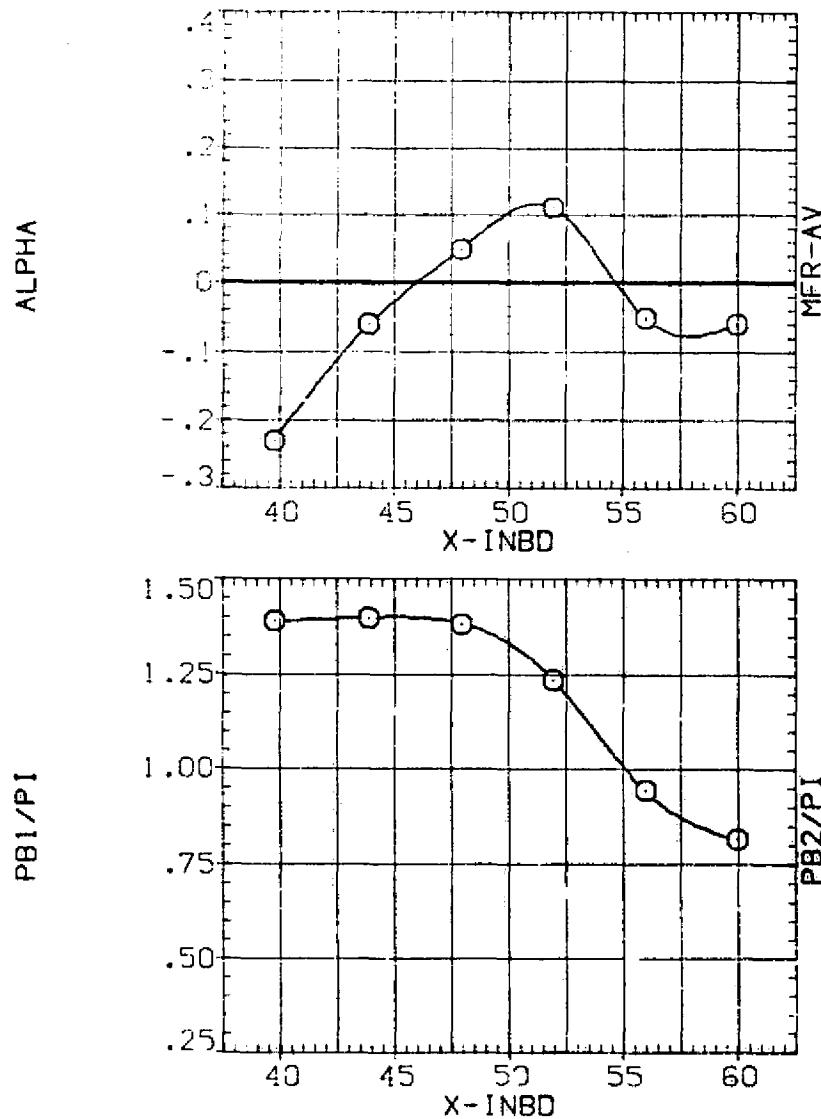


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

DATA SET SYMBOL CONFIGURATION DESCRIPTION

1BAP010	W B W N
1BAP020	DATA NOT AVAILABLE
1BAP030	DATA NOT AVAILABLE
1BAP040	DATA NOT AVAILABLE
1BAP050	DATA NOT AVAILABLE
1BAP060	DATA NOT AVAILABLE



2Y1/B 2Y0/B BX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

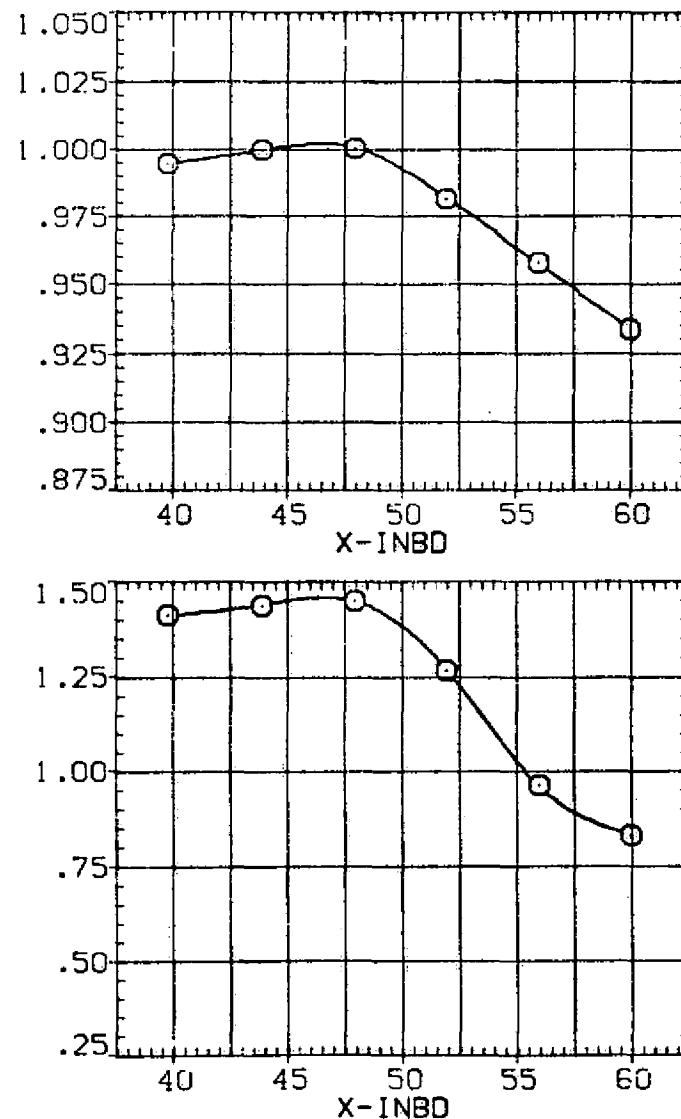


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

CFMACH = 1.30

PAGE 97

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO19)	○	W B N1 N1
(BAPO20)	○	W B N1 N1
(BAPO21)	○	W B N1 N1
(BAPO31)	△	W B N2 N2
(BAPO32)	△	W B N2 N2
(BAPO33)	□	W B N2 N2

ZY1/B ZY0/B DX

.250	.550	.000
.250	.550	4.000
.250	.550	8.000
.250	.550	.000
.250	.550	4.000
.250	.550	8.000

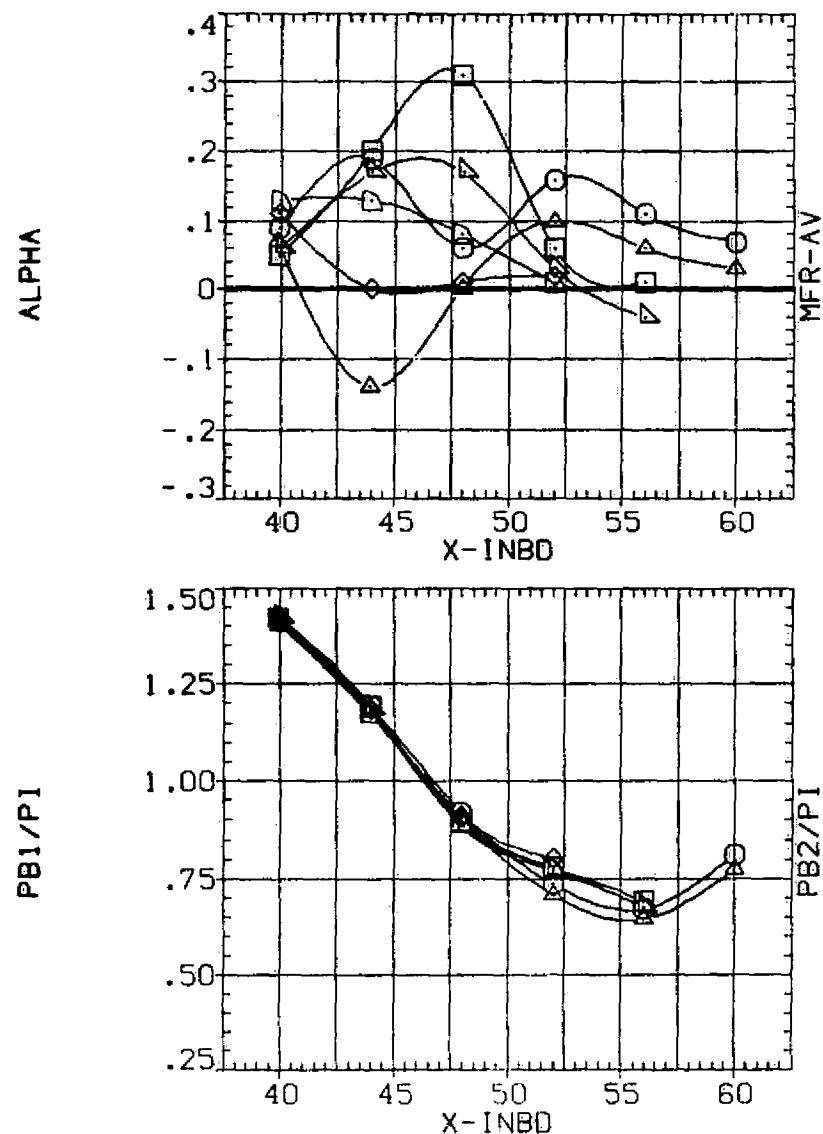


FIG. 11 EFFECTS OF NACELLE POSITION ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.39

PAGE 98

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	○	W B N1 N1
(RAP023)	○	DATA NOT AVAILABLE
(RAP024)	○	DATA NOT AVAILABLE
(RAP034)	△	DATA NOT AVAILABLE
(RAP035)	△	DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	Dx
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

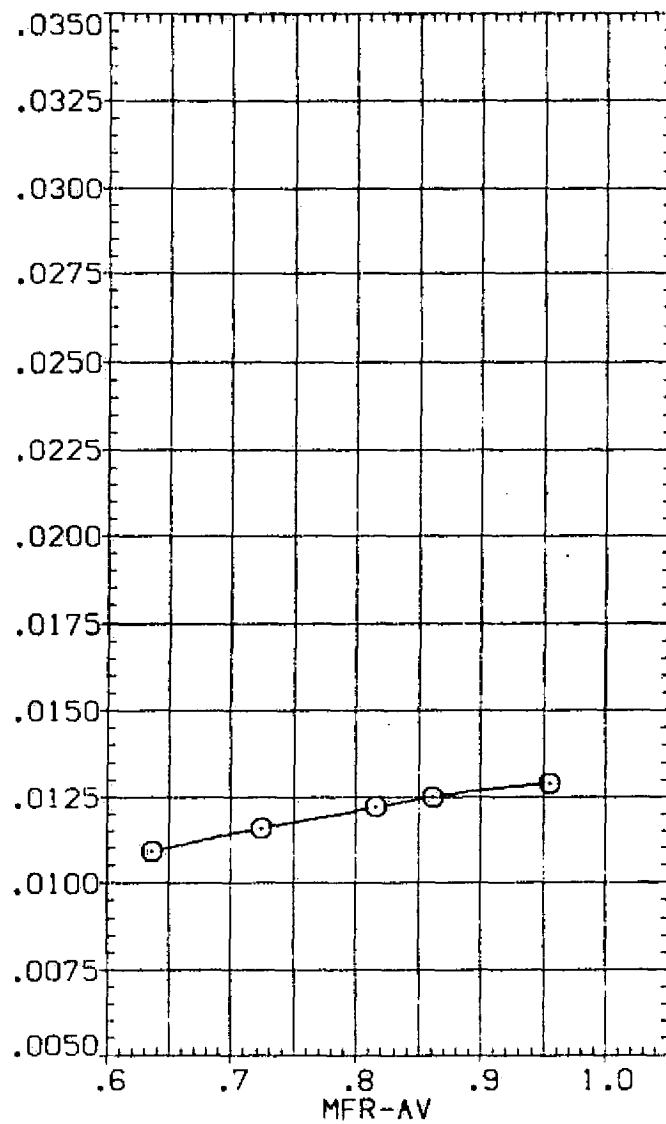
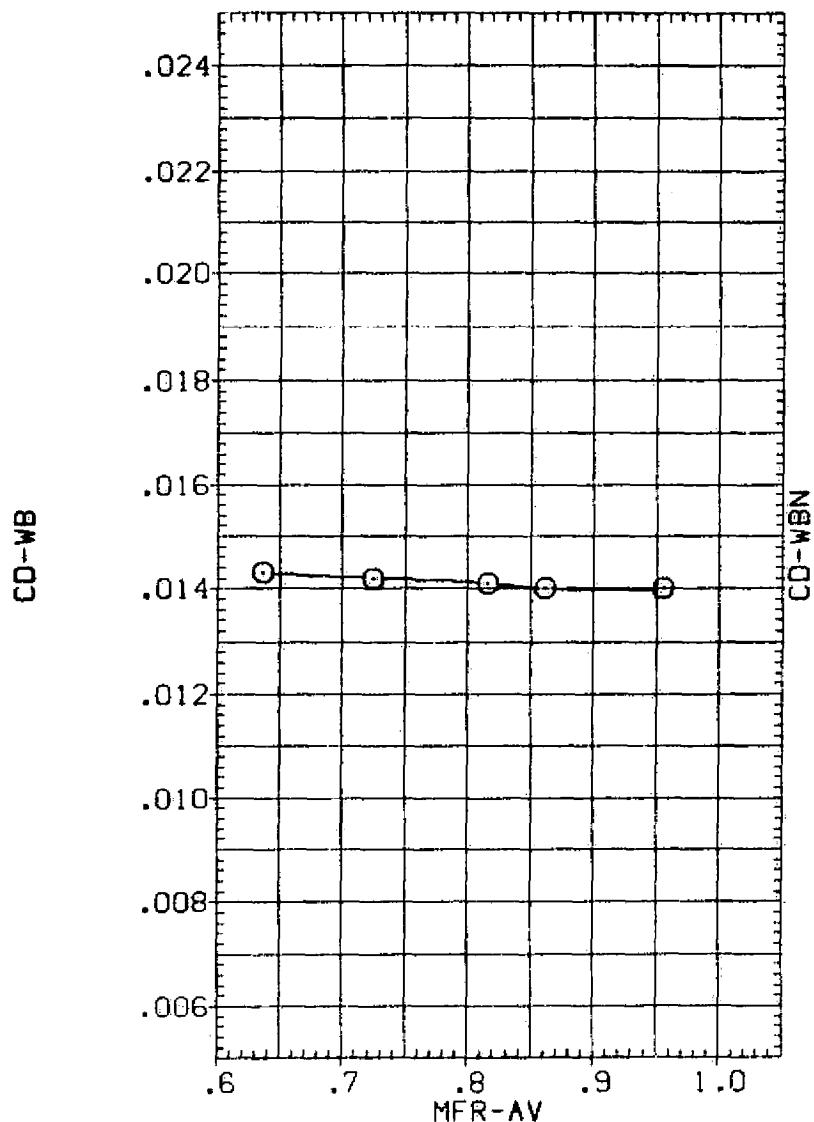


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 99

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \circ ∇ B NI NI
 (RAP023) \square ∇ B NI NI
 (ZAP024) \times ∇ B NI NI
 (RAP034) Δ ∇ B N2 N2
 (RAP035) \square ∇ B N2 N2

X-1N80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

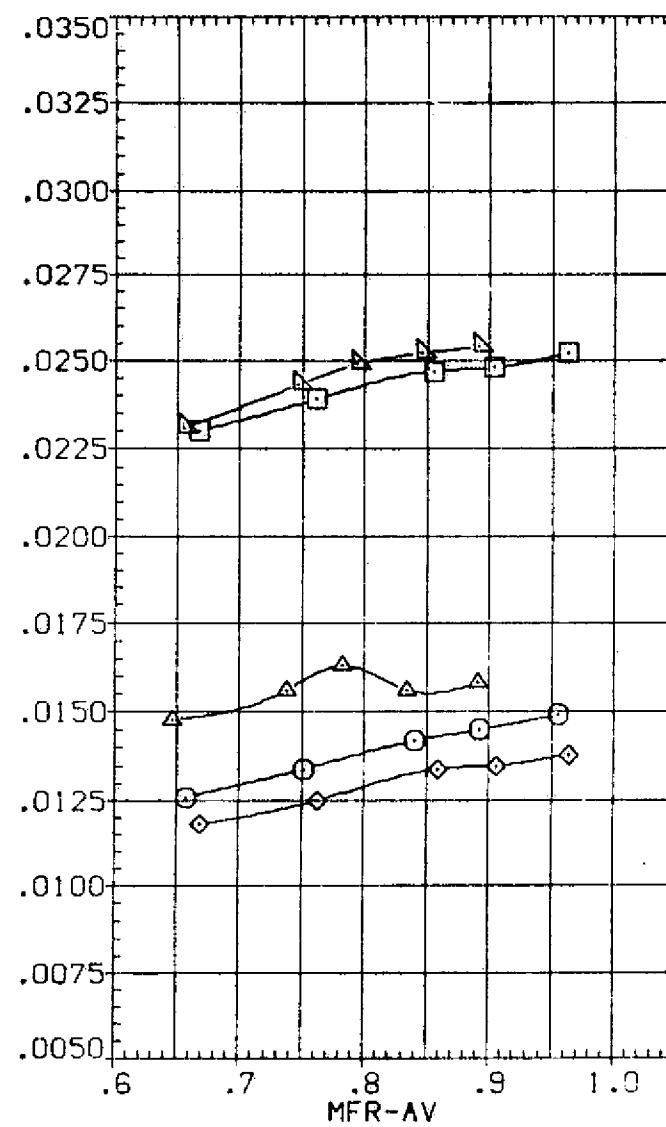
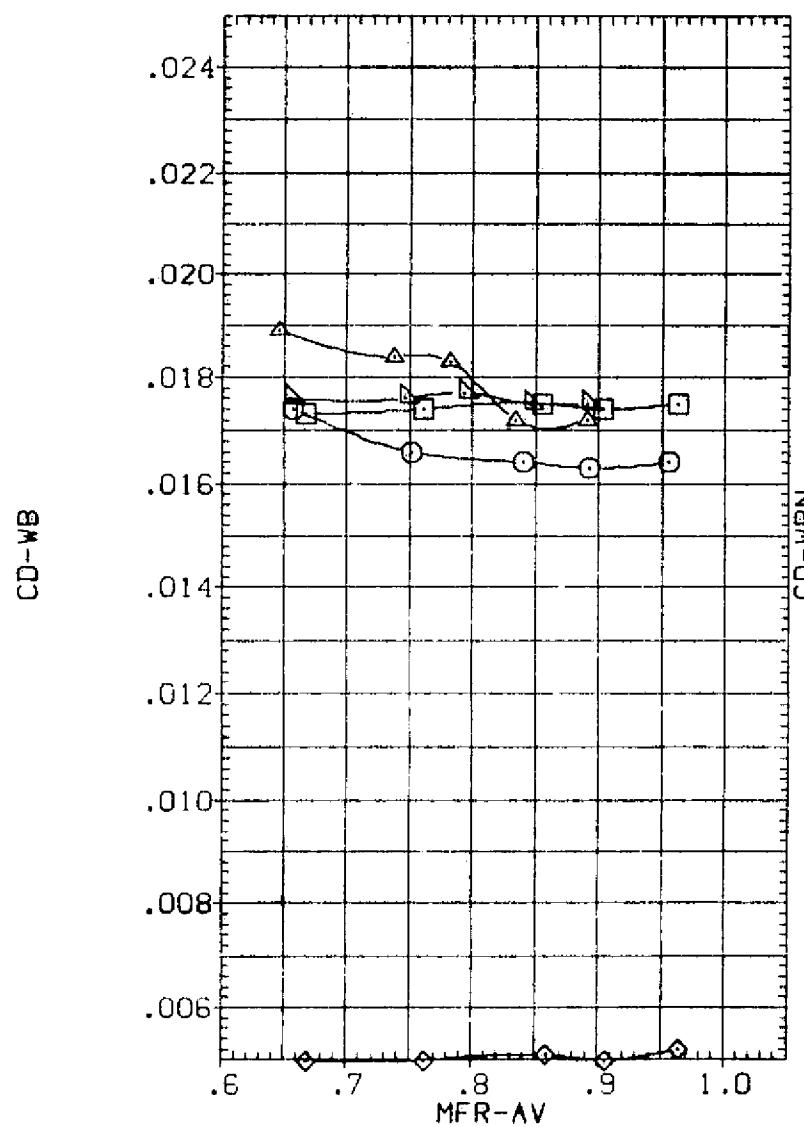


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 100

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) W E N1 N1
 (RAP023) DATA NOT AVAILABLE
 (ZAP024) DATA NOT AVAILABLE
 (RAP034) DATA NOT AVAILABLE
 (RAP035) DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

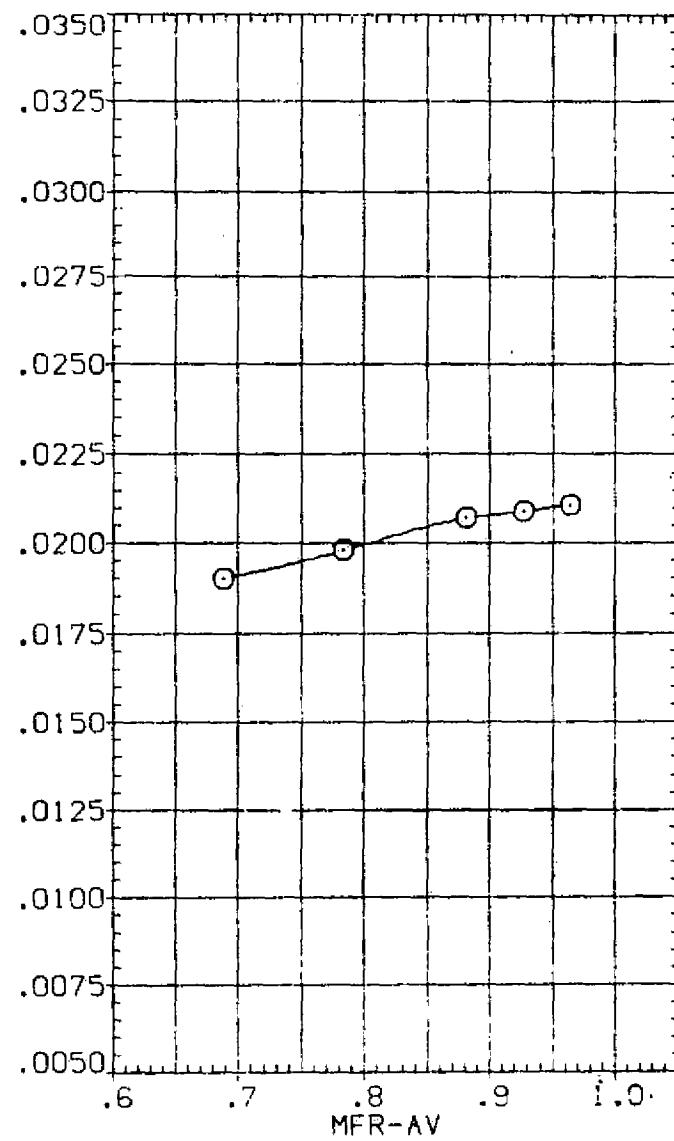
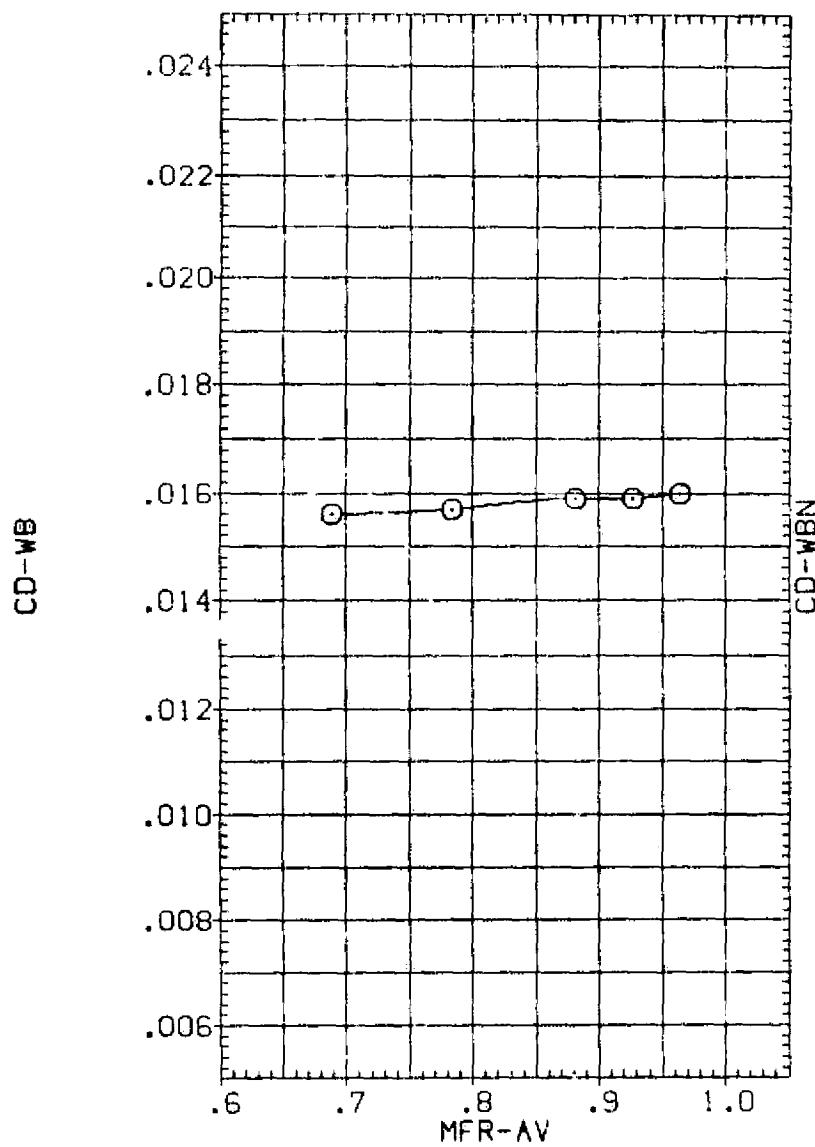


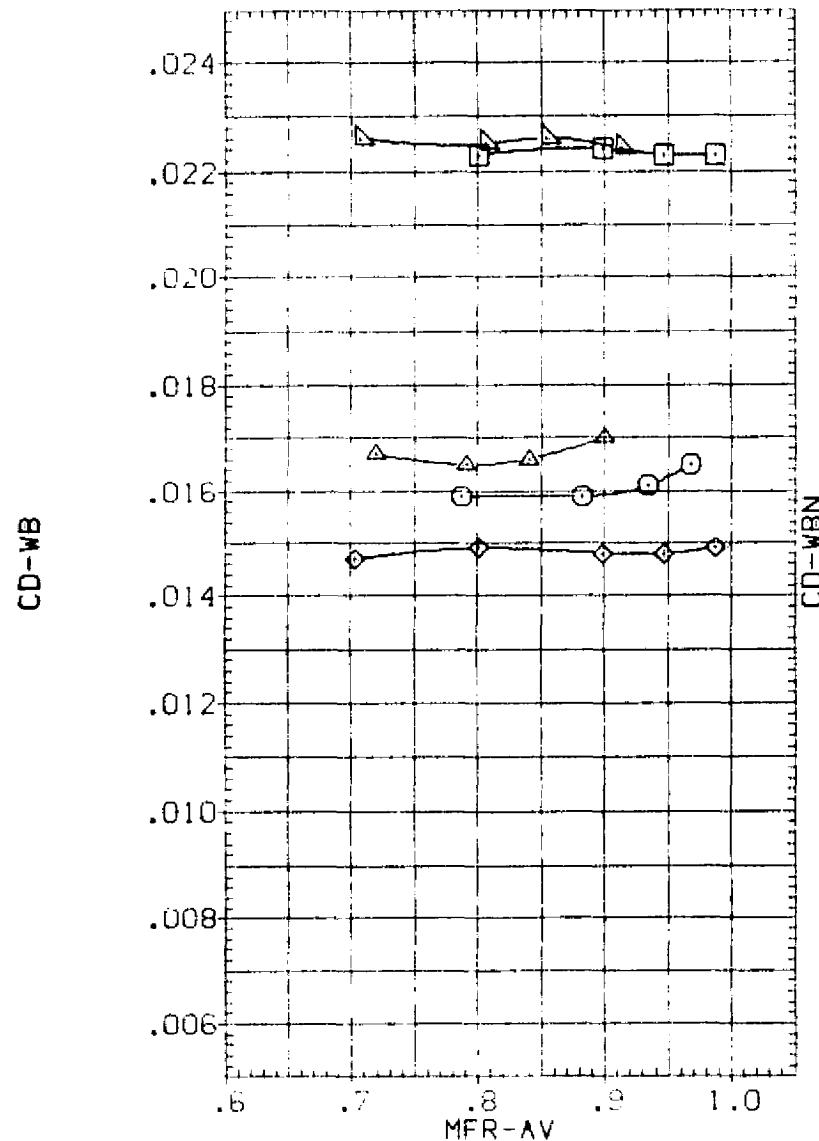
FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 101

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	○	✓ B N1 N1
(RAP023)	△	✓ B N1 N2
(ZAP024)	×	✓ B N1 N1
(RAP034)	△	✓ B N2 N2
(RAP035)	▽	✓ B N2 N2



X-INBD	ZY1/B	ZY2/B	DX
56,000	.250	.550	.1750
48,000	.250	.550	.1750
40,000	.250	.550	.1750
56,000	.250	.550	.1750
48,000	.250	.550	.1750

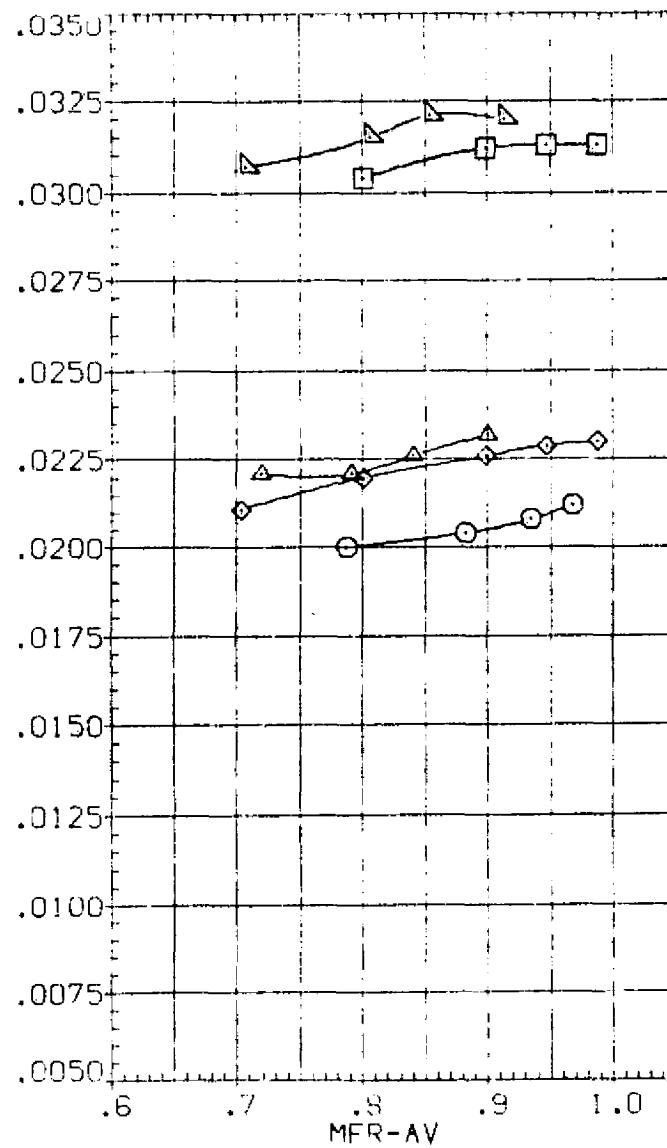


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

CD(MACH = 1.15

PAGE 102

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \square W B N1 N1
 (RAP023) \square DATA NOT AVAILABLE
 (RAP024) \times DATA NOT AVAILABLE
 (RAP034) \times DATA NOT AVAILABLE
 (RAP035) \times DATA NOT AVAILABLE

X-1INCH	2Y1/8	2Y0/8	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

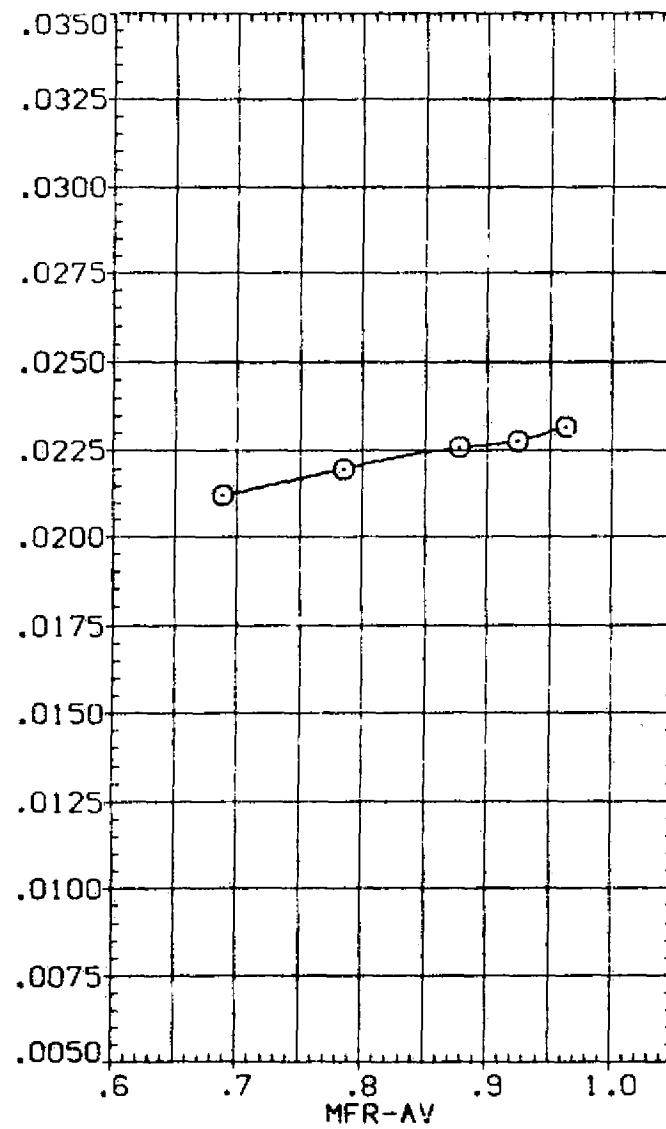
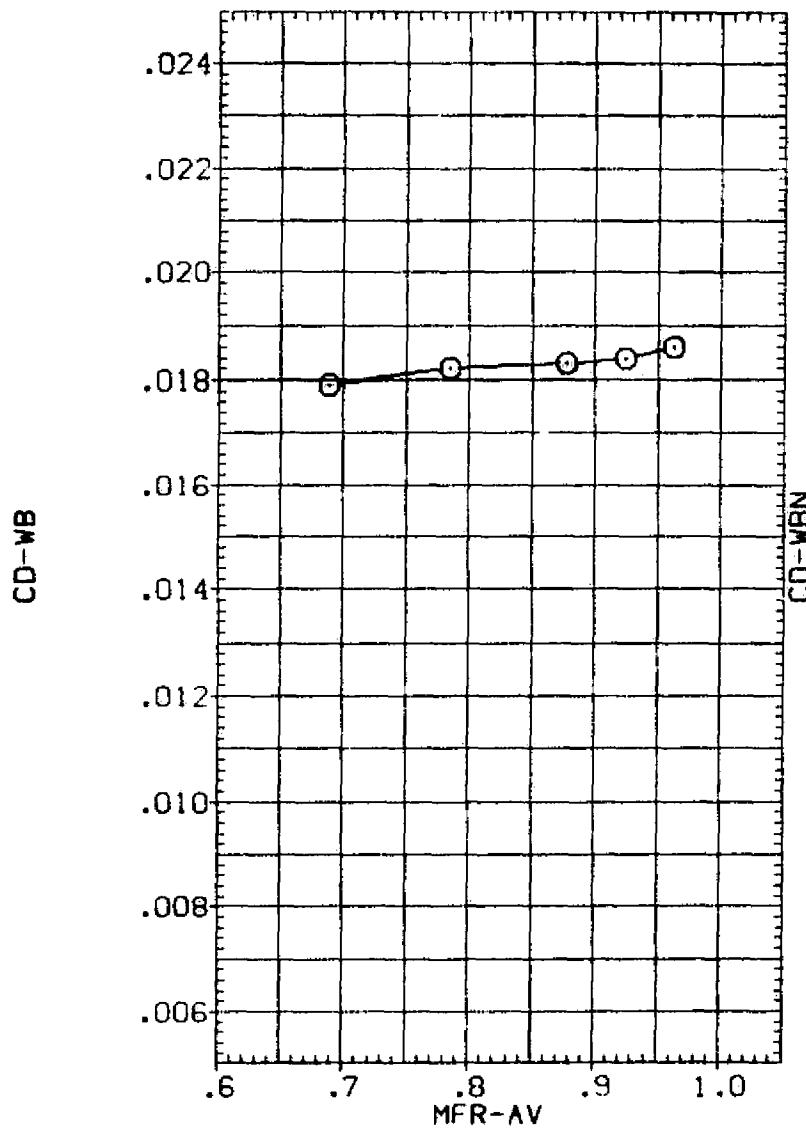


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.20

PAGE 103

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)  V B N1 N1
 (RAP023)  DATA NOT AVAILABLE
 (ZAPU24)  DATA NOT AVAILABLE
 (RAP034)  DATA NOT AVAILABLE
 (RAP035)  DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

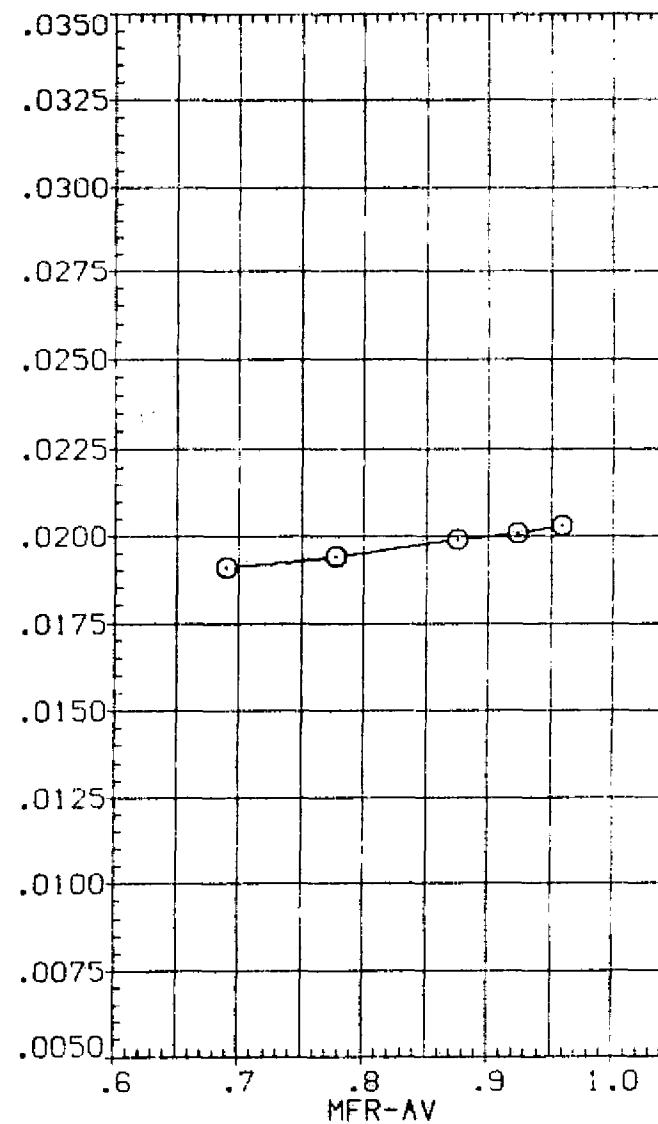
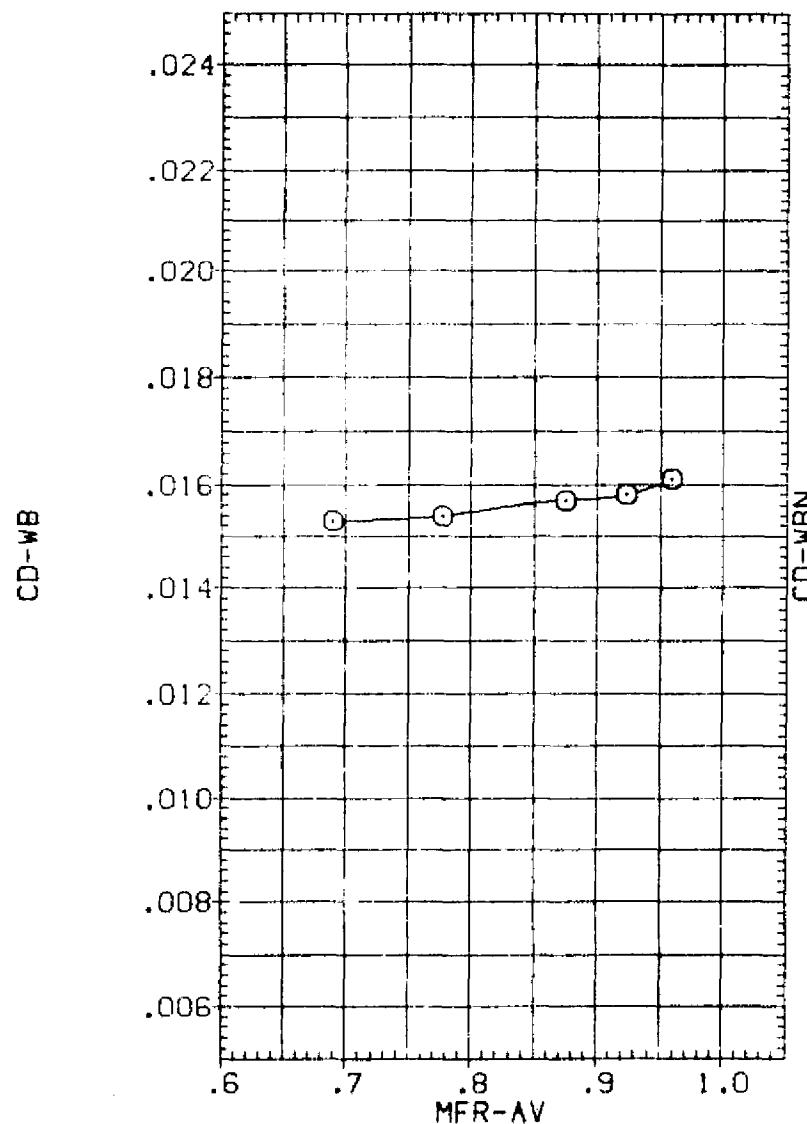


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 104

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	○	▼ B N1 N1
(RAP023)	□	▼ B N1 N1
(ZAP024)	△	▼ B N1 N1
(RAP034)	△	▼ B N2 N2
(RAP035)	△	▼ B N2 N2

X-INBD 2Y1/B 2Y0/B DX

56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

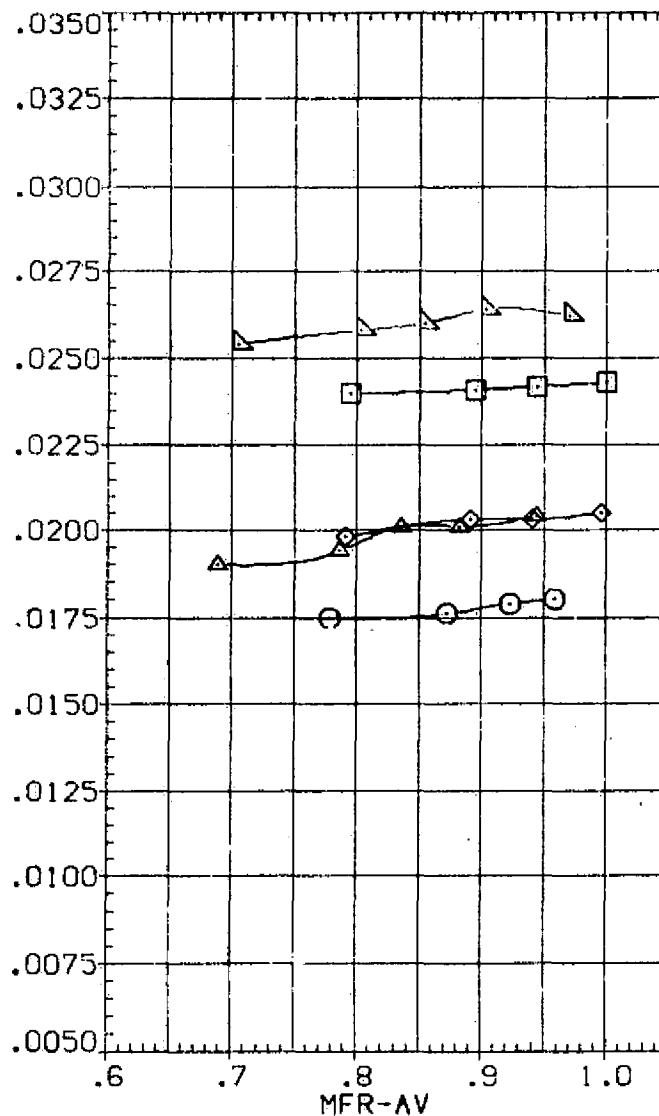
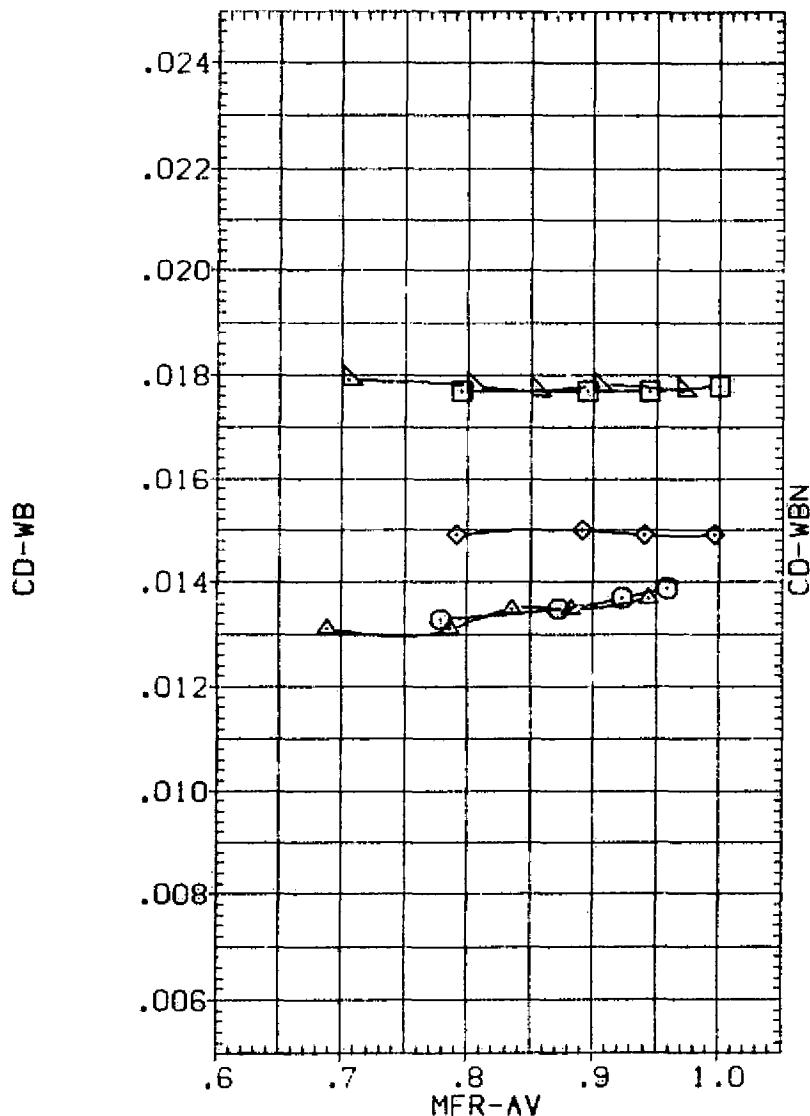


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 105

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \bigcirc W B NI NI
 (RAP023) \square DATA NOT AVAILABLE
 (RAP024) \times DATA NOT AVAILABLE
 (RAP034) \diamond DATA NOT AVAILABLE
 (RAP035) Δ DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

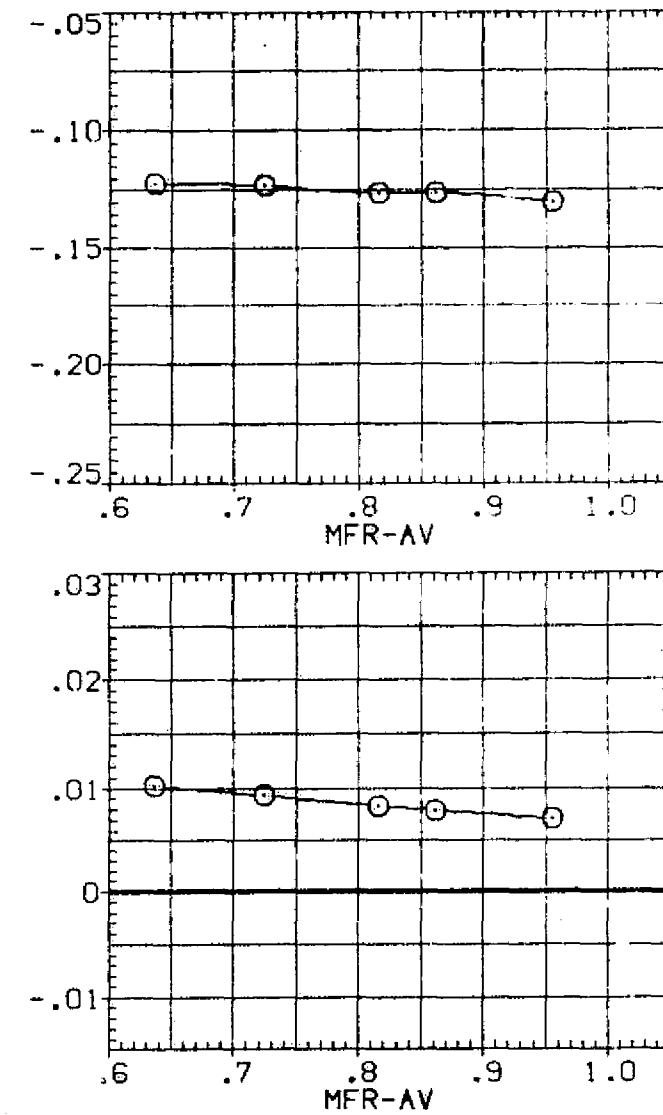
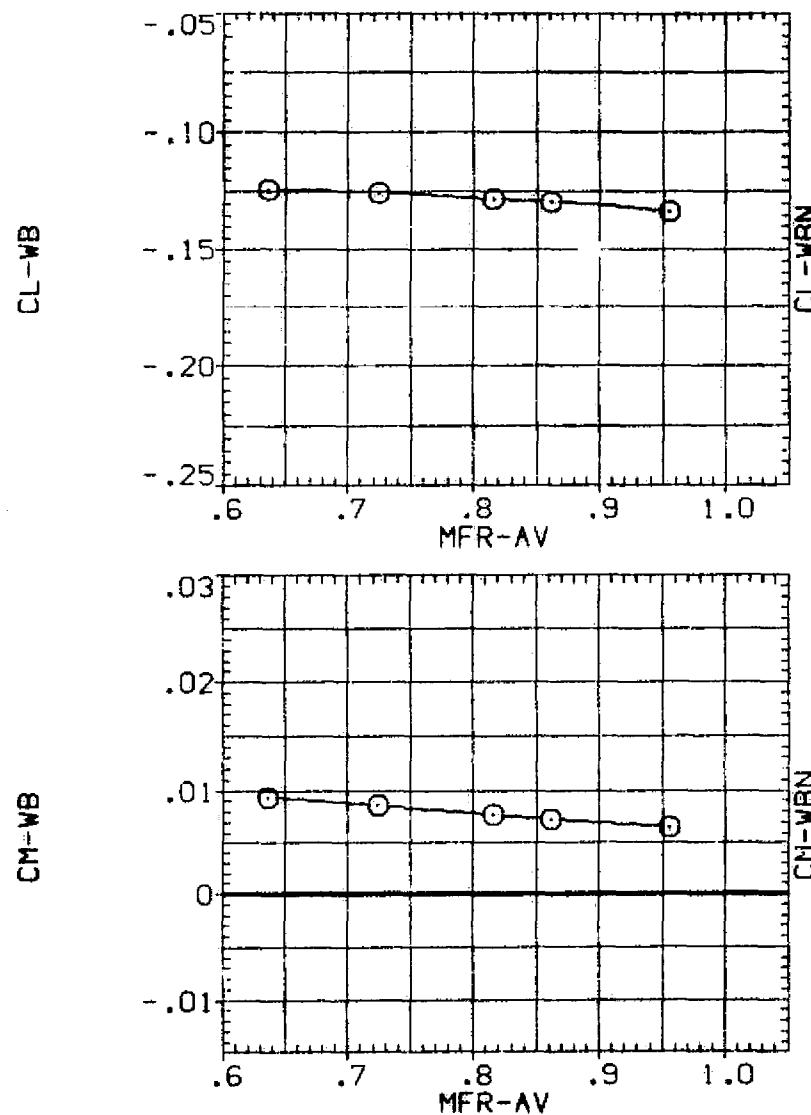


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) B NI NI
 (RAP023) B NI NI
 (ZAP024) B NI NI
 (RAP034) B N2 N2
 (RAP035) B N2 N2

X-INBD	2Y1/B	2Y3/B	TX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

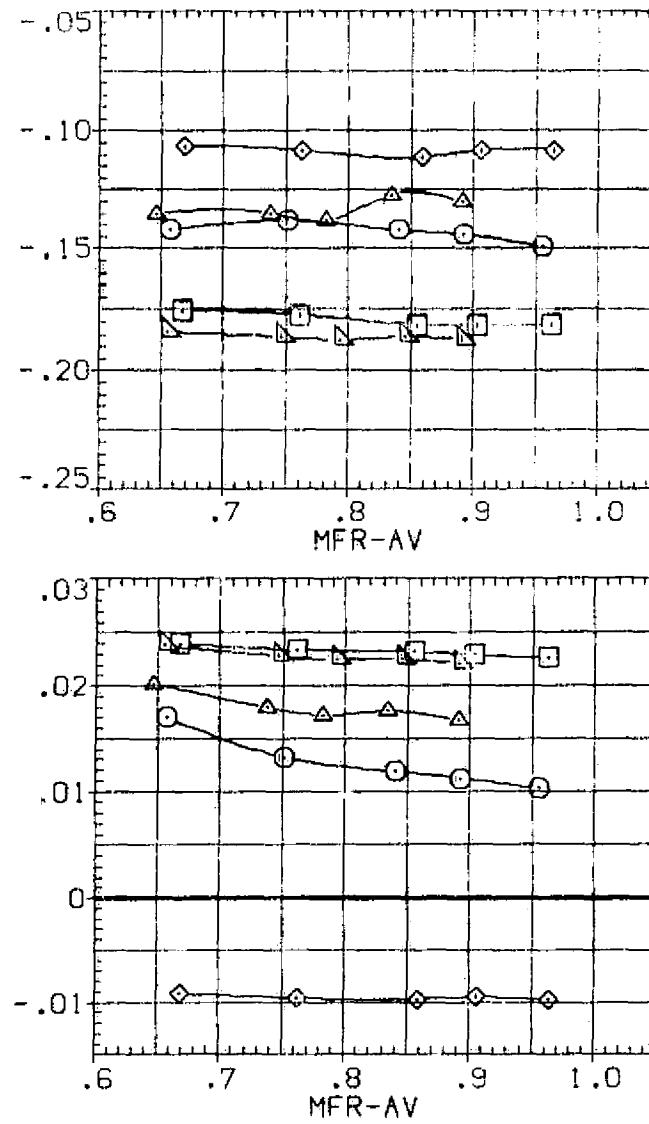
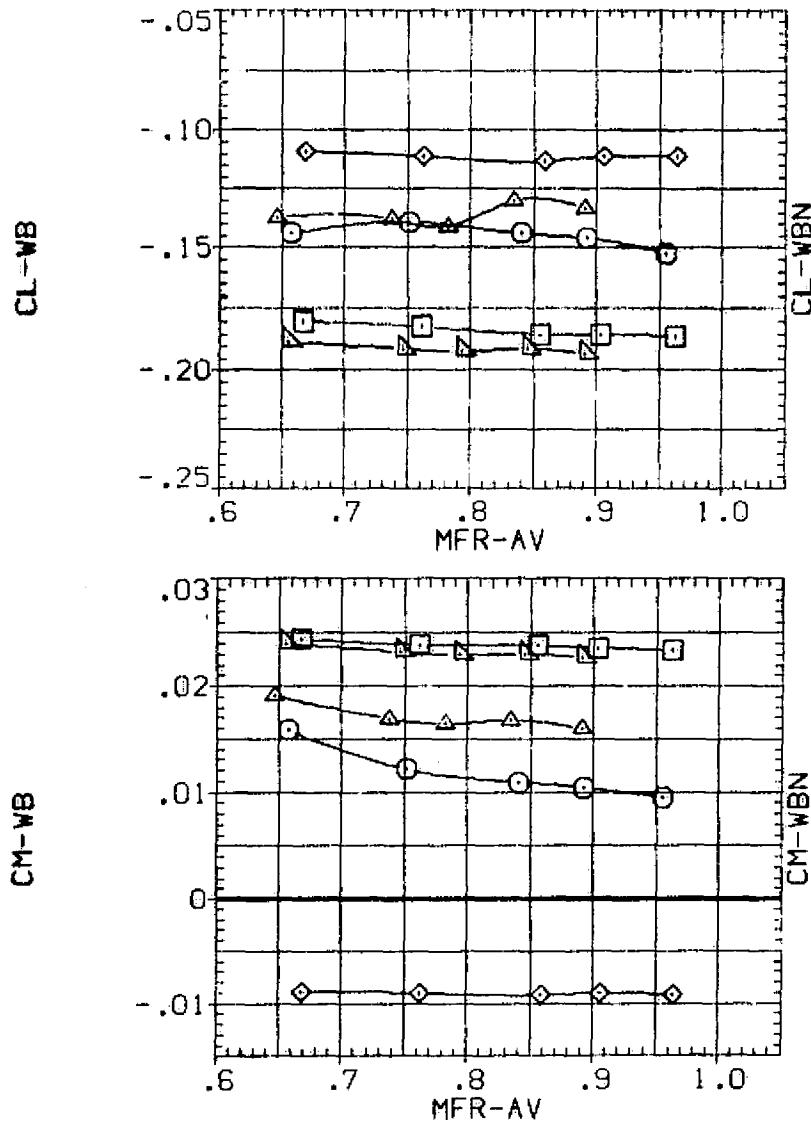


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 107

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPO21) \square W B N1 N1
 (RAPO23) DATA NOT AVAILABLE
 (ZAP024) \diamond DATA NOT AVAILABLE
 (RAPO34) \triangle DATA NOT AVAILABLE
 (RAPO35) \square DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	Dx
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

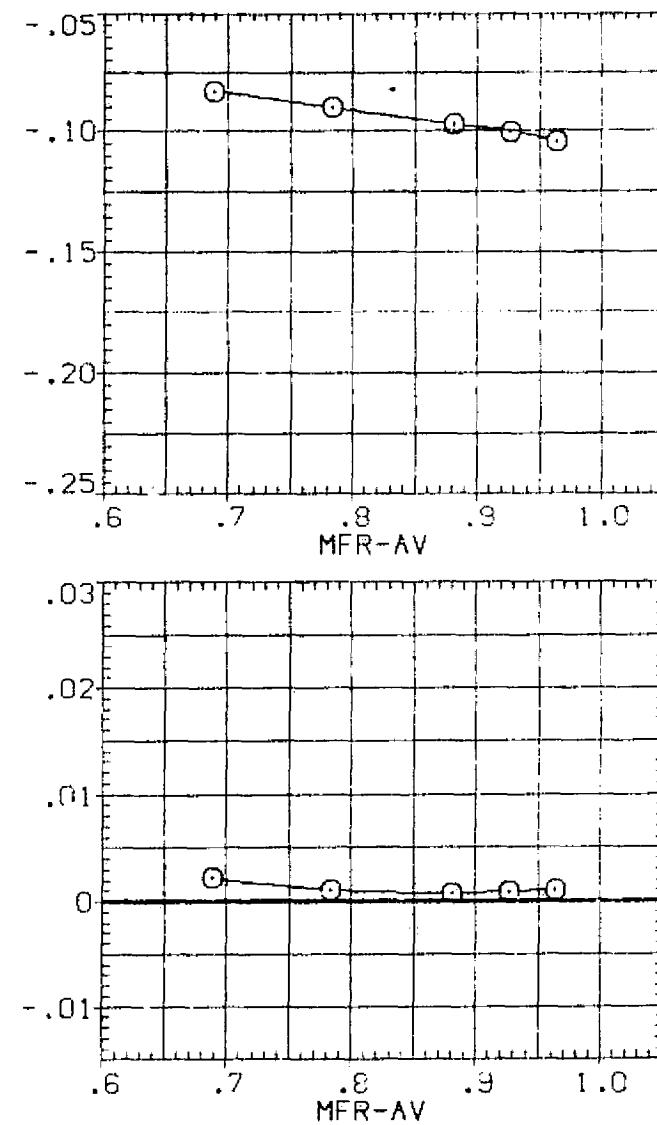
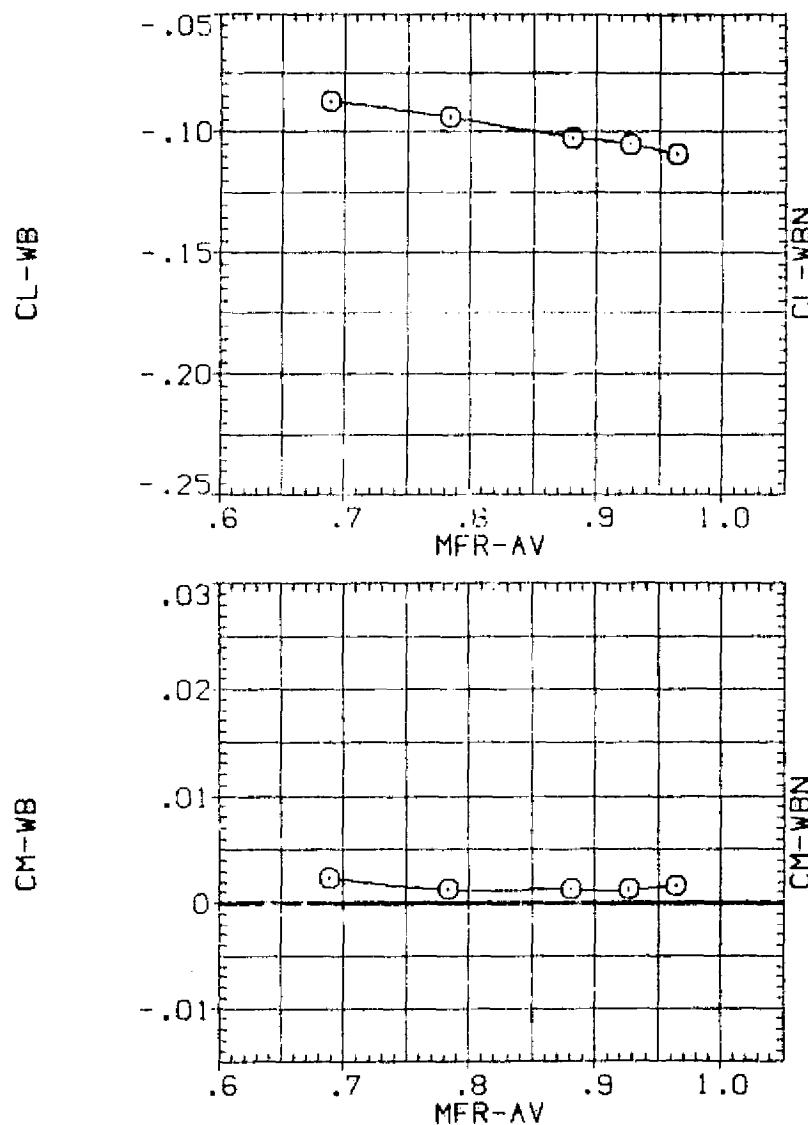


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

CCOMACH = 1.10

PAGE 108

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPO22) \circ B N1 N1
 (RAPO23) \times B N1 N1
 (RAPO24) ∇ B N1 N1
 (RAPO34) \triangleright B N2 N2
 (RAPO35) ∇ B N2 N2

X-INBO	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

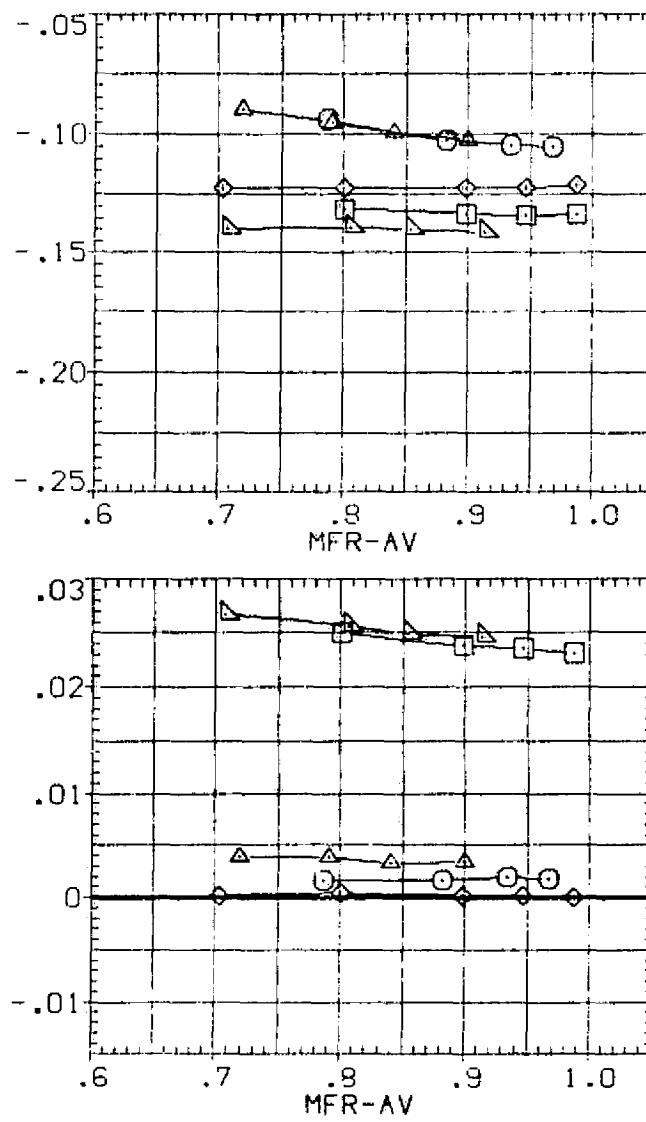
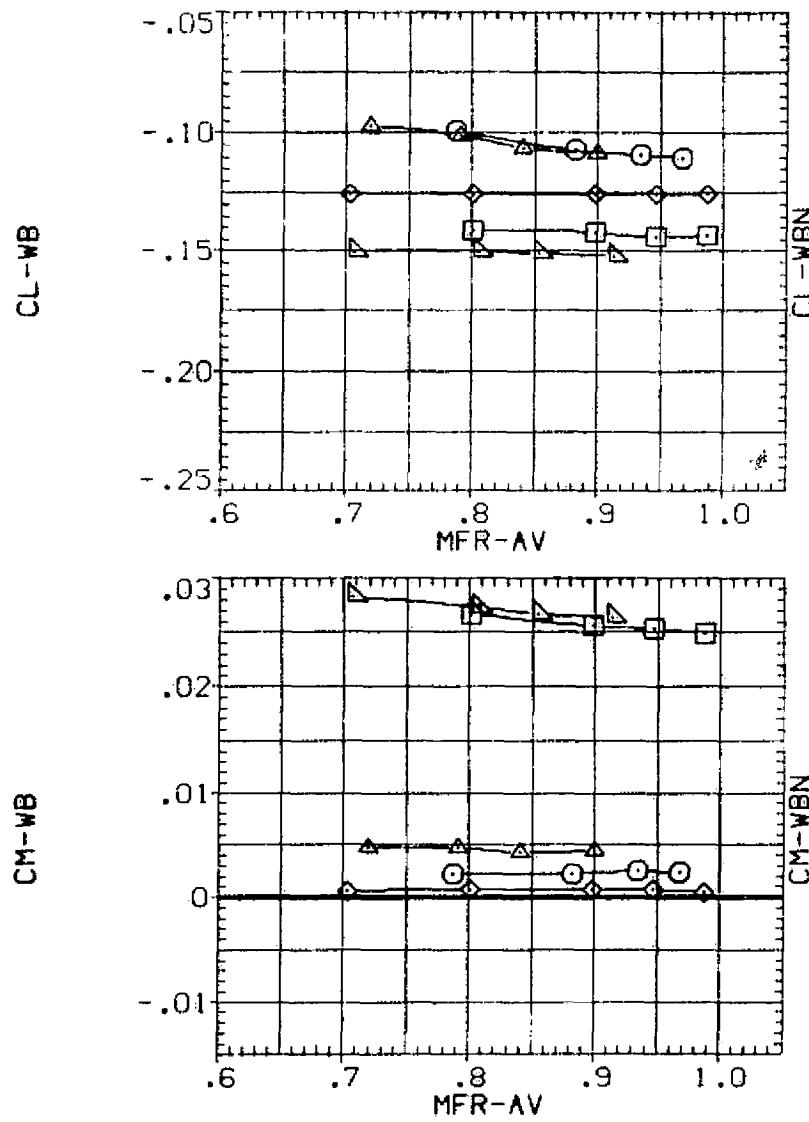


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \circ W B N1 N1
 (RAP023) \square DATA NOT AVAILABLE
 (RAP024) \times DATA NOT AVAILABLE
 (RAP034) Δ DATA NOT AVAILABLE
 (RAP035) \triangleright DATA NOT AVAILABLE

X-1N80	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

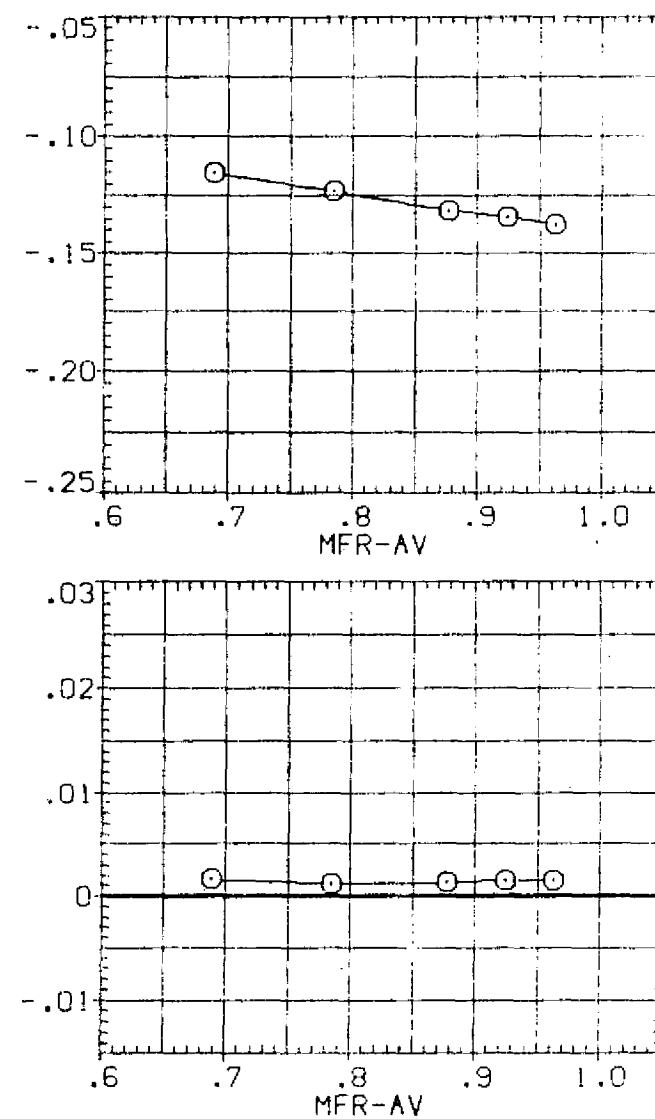
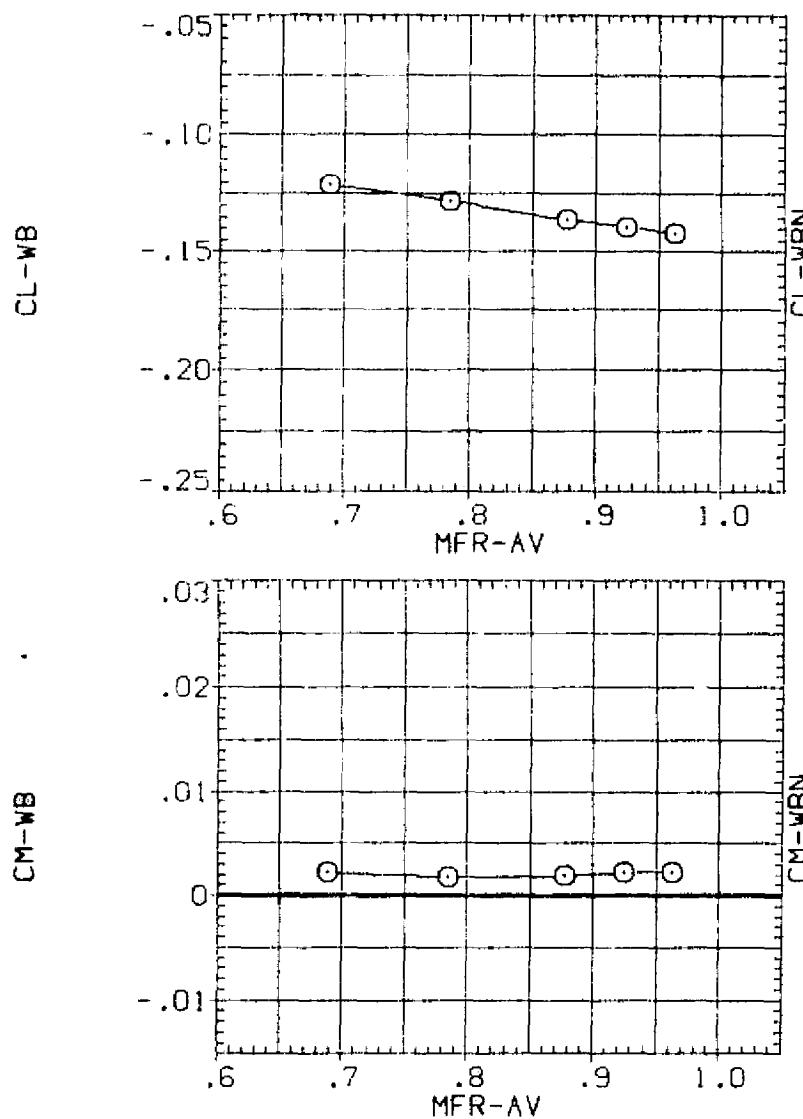


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.20

PAGE 110

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \square V B NL NI
 (RAP023) \square DATA NOT AVAILABLE
 (ZAP024) \diamond DATA NOT AVAILABLE
 (RAP034) \square DATA NOT AVAILABLE
 (RAP035) \square DATA NOT AVAILABLE

X-INBD	2Y1/8	2Y0/8	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

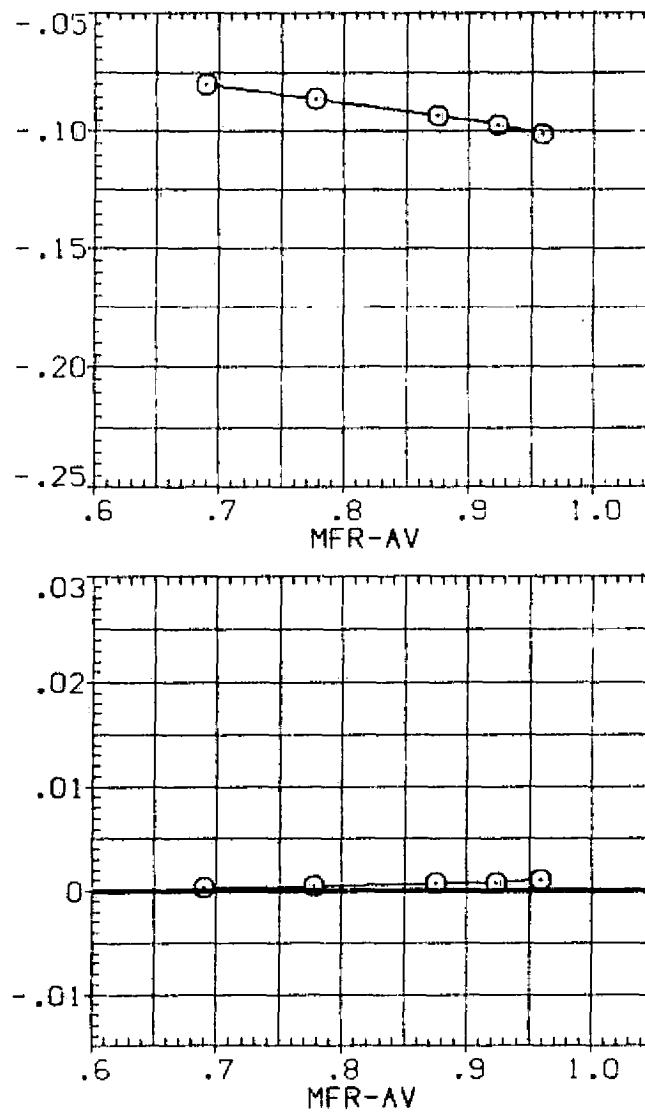
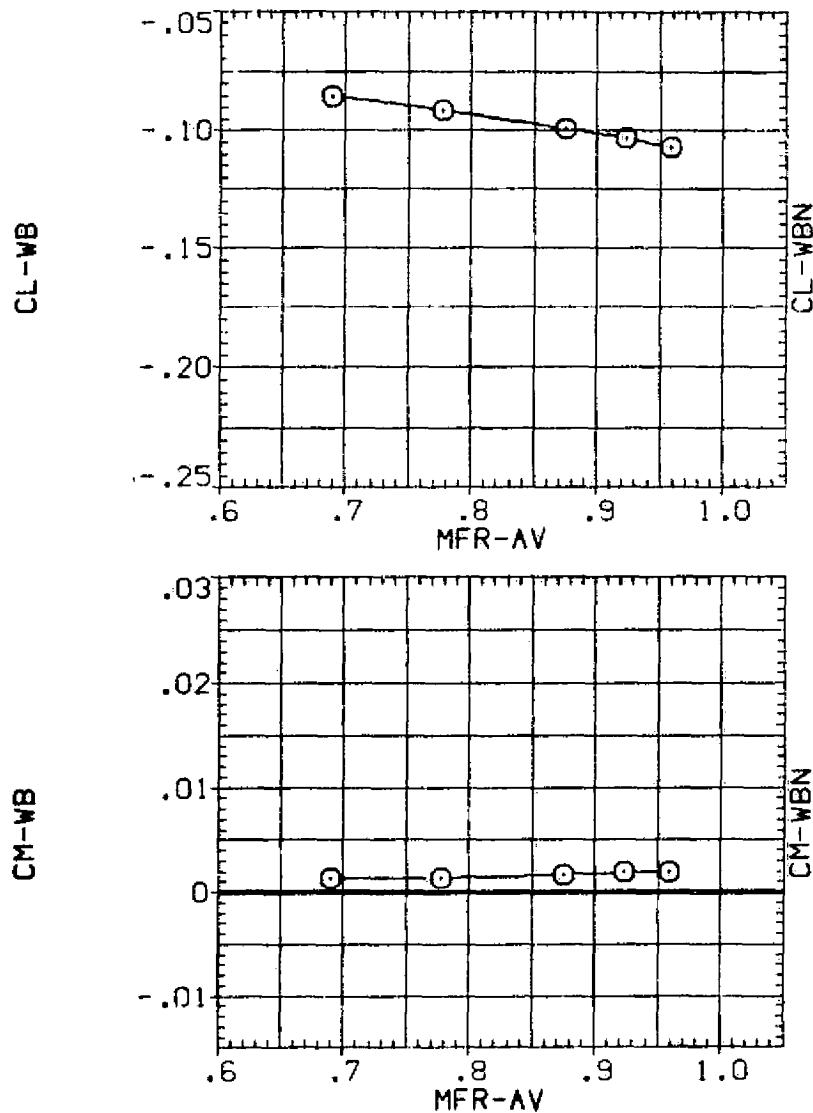


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F0)MACH = 1.30

PAGE 111

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \circ ∇ B N1 N1
 (RAP023) \square ∇ B N1 N1
 (RAP024) \times ∇ B N1 N1
 (RAP034) \square ∇ B N2 N2
 (RAP035) \triangleright ∇ B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

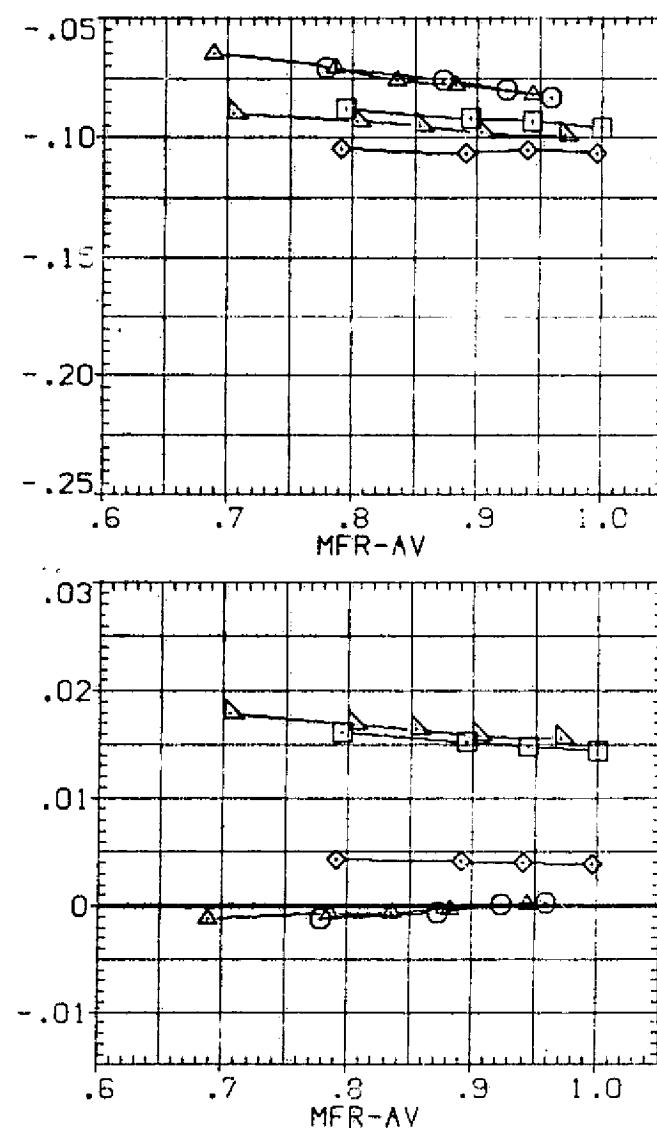
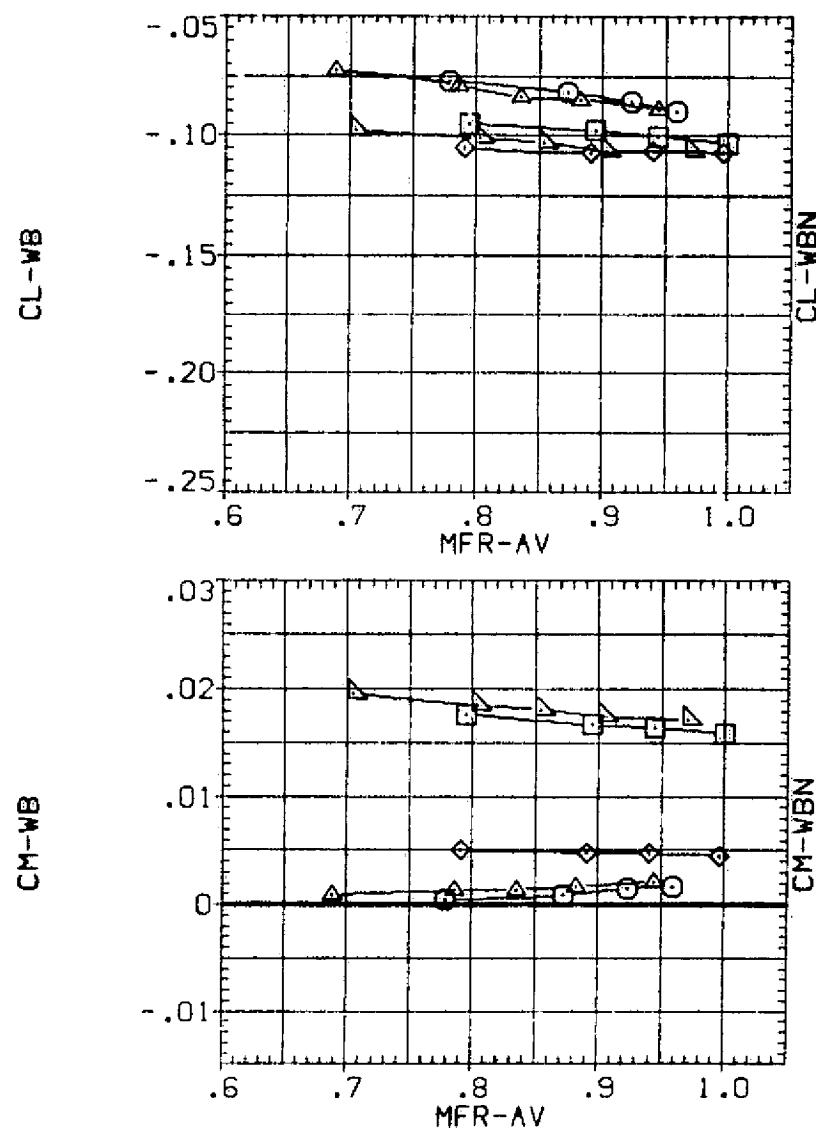


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 112

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	□	W B N1 N1
(RAP023)	○	DATA NOT AVAILABLE
(ZAP024)	△	DATA NOT AVAILABLE
(RAP034)	△	DATA NOT AVAILABLE
(RAP035)	▽	DATA NOT AVAILABLE

X-INBO	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

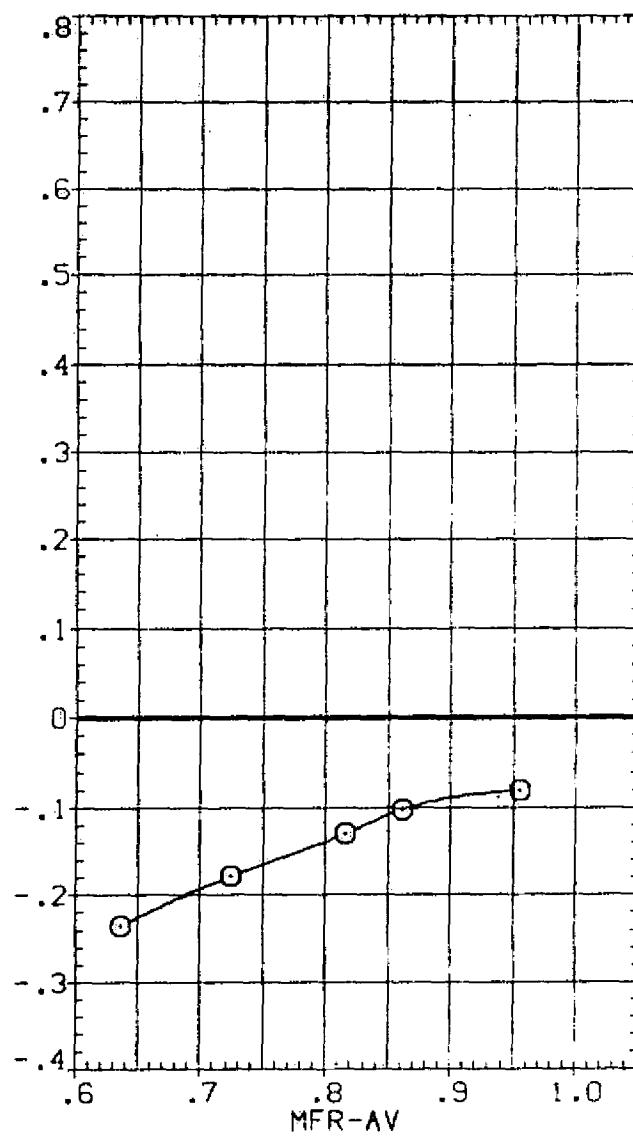
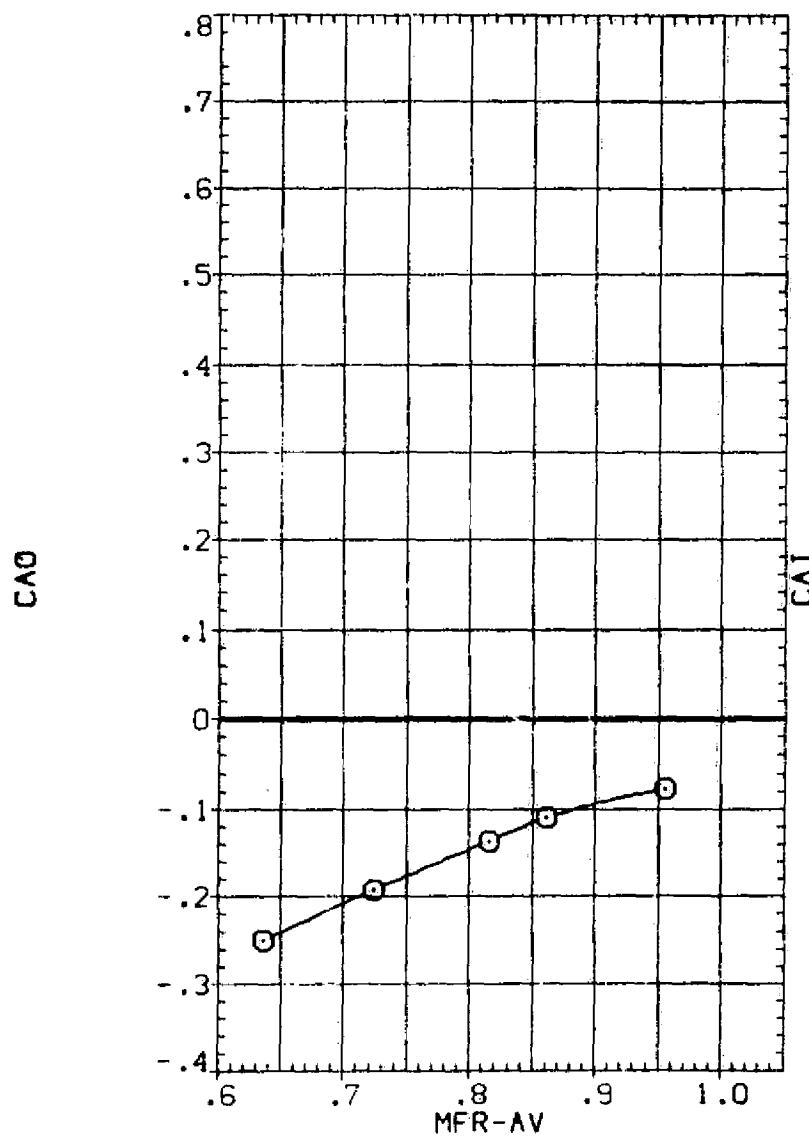


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	○	W B N1 N1
(RAP023)	▼	W B N1 N1
(ZAP024)	◇	W B N1 N1
(RAP044)	×	W B N2 N2
(RAP051)	△	W B N2 N2

X-INCH	ZY1/B	ZY0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

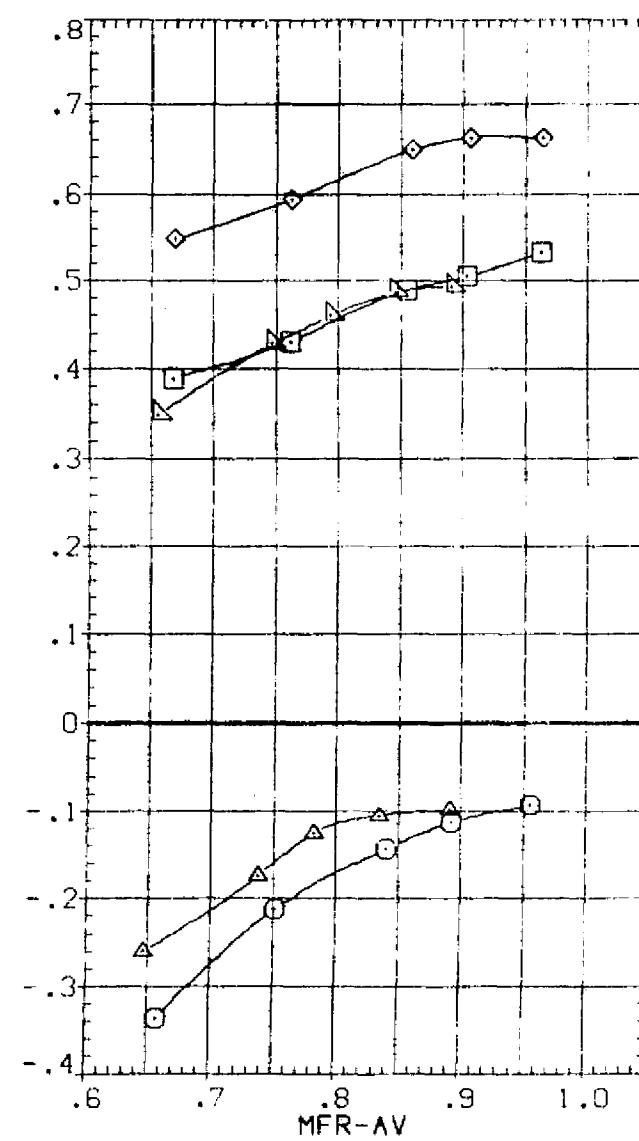
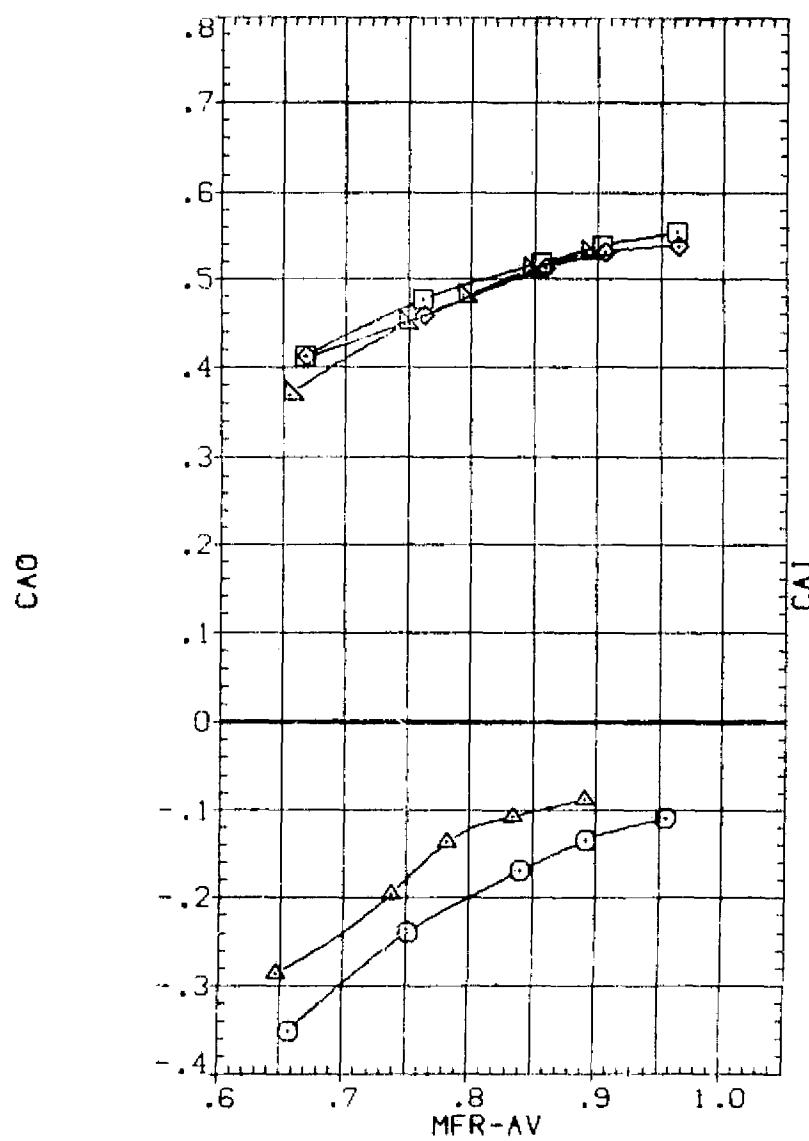


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 114

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPO22) \circ W B N1 N1
 (RAPO23) \square DATA NOT AVAILABLE
 (RAPO24) \square DATA NOT AVAILABLE
 (RAPO34) \triangle DATA NOT AVAILABLE
 (RAPO55) ∇ DATA NOT AVAILABLE

X-INBD	Z1/ZB	Z2/ZB	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

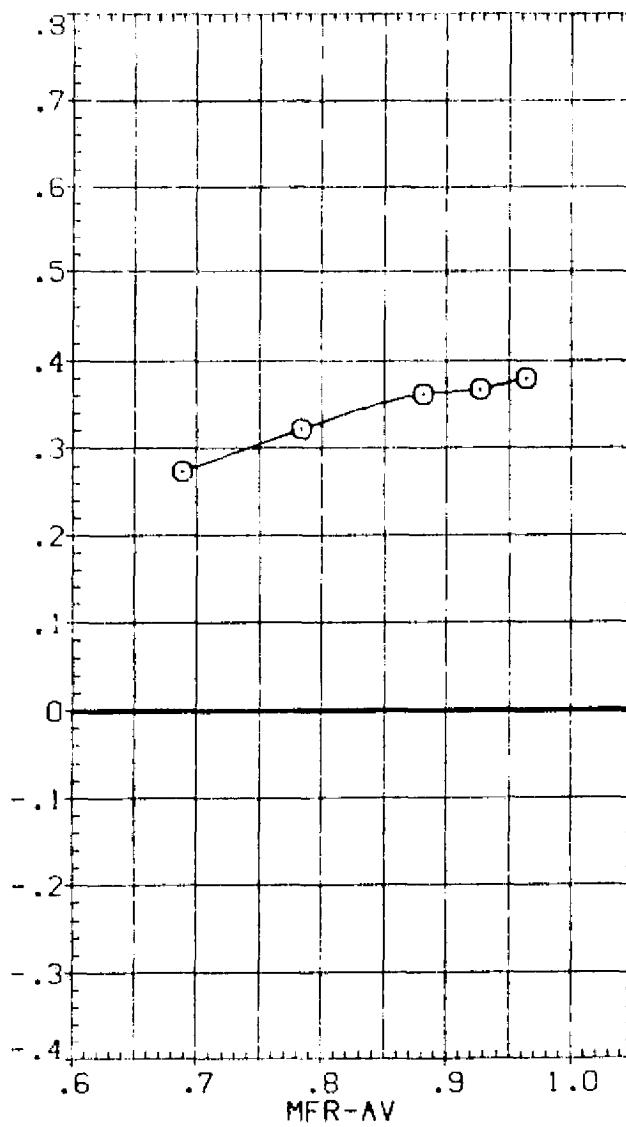
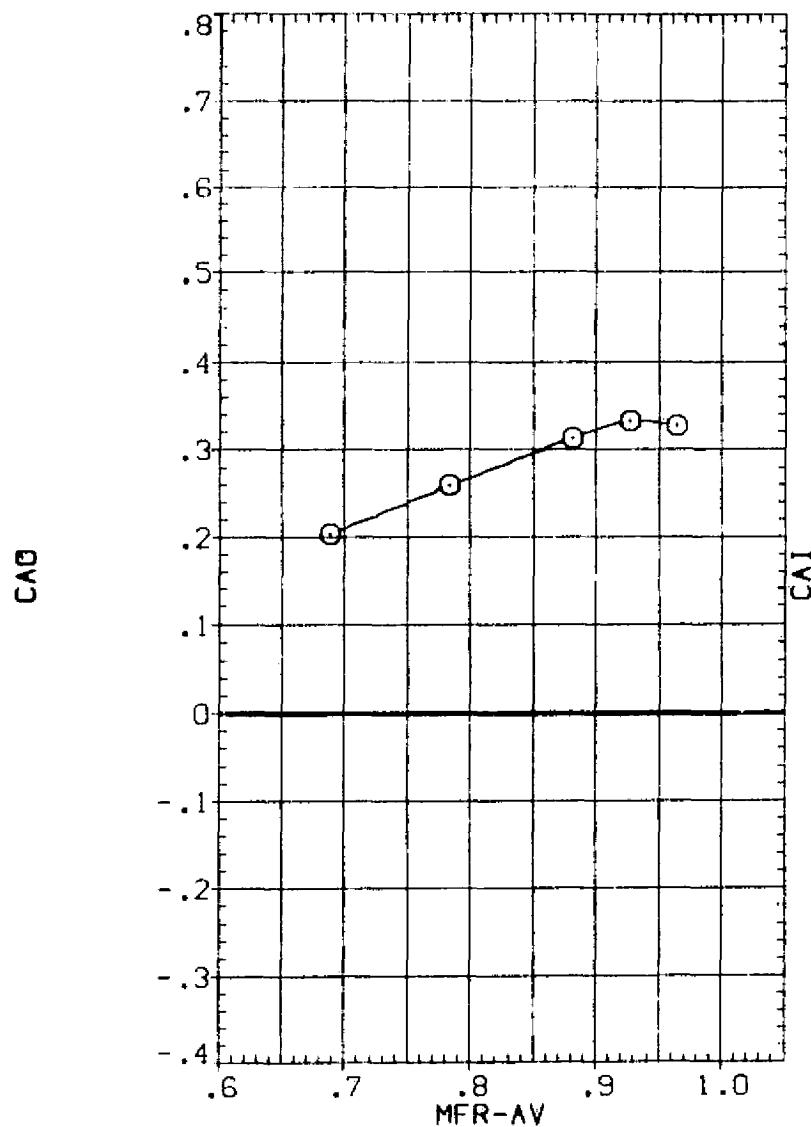


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022) \square B N1 N1
 (RAP023) \square B N1 N1
 (ZAP024) \diamond B N1 N1
 (RAP034) \triangle B N2 N2
 (RAP035) \square B N2 N2

X-INCH	2Y1/B	2Y0/R	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

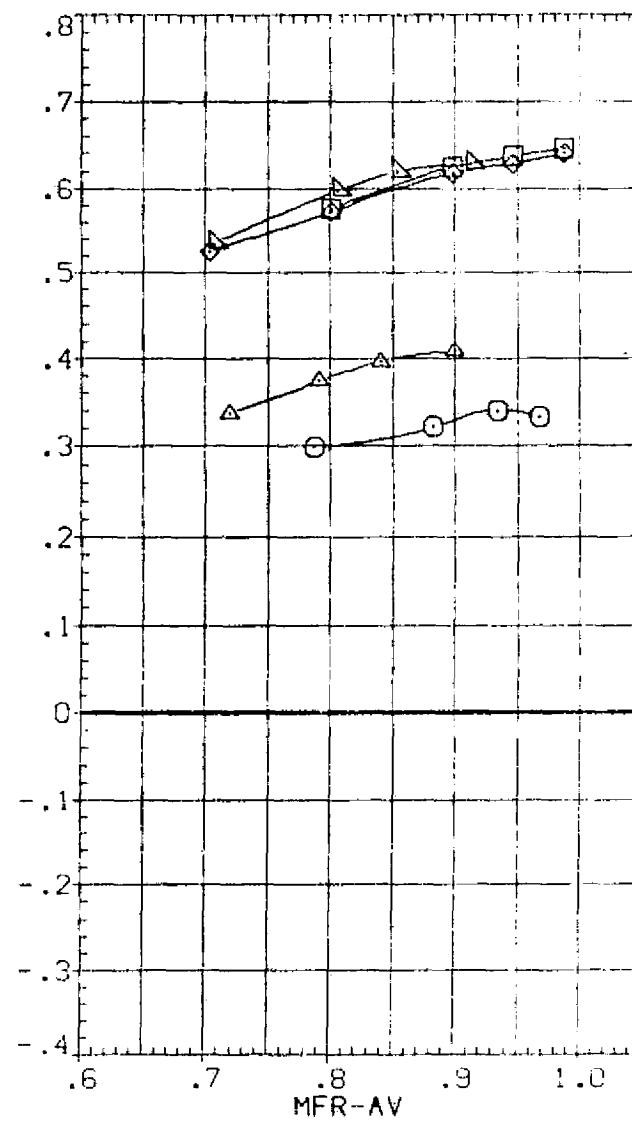
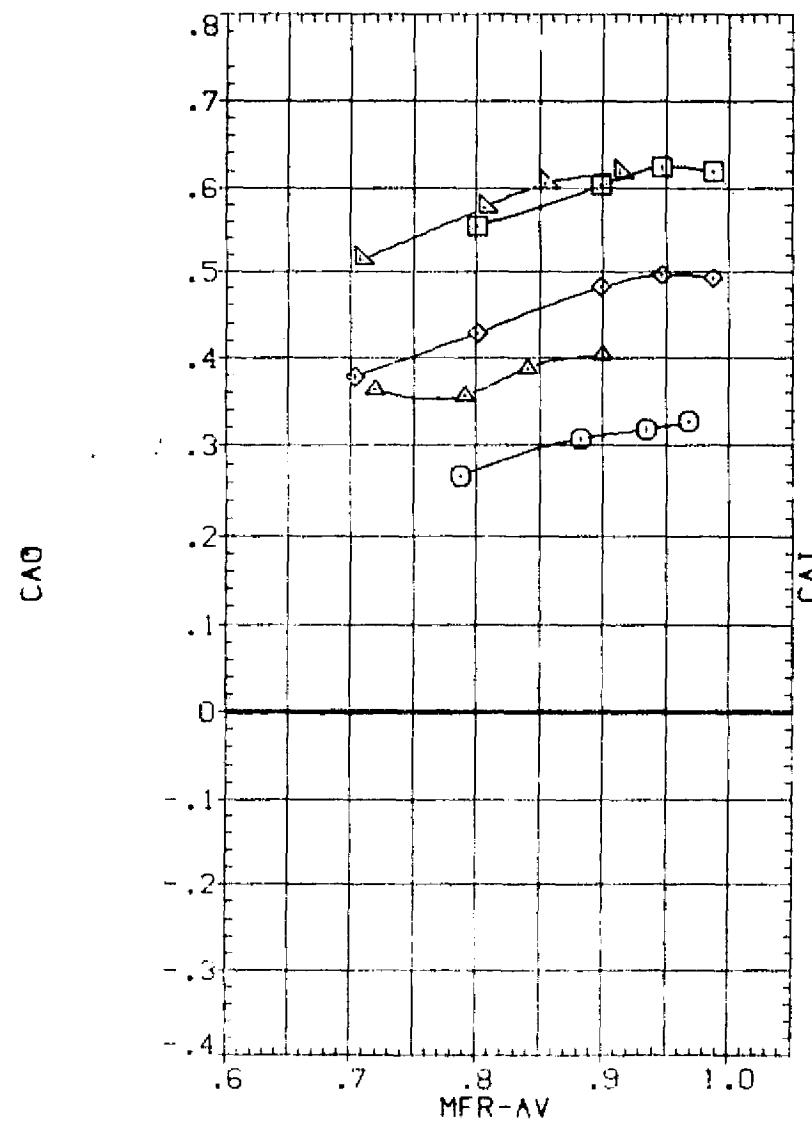


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 116

DATA SET SYMBOL CONFIGURATION DESCRIPTION

- (RAP022)  B NI NI
- (RAP023)  DATA NOT AVAILABLE
- (RAP024)  DATA NOT AVAILABLE
- (RAP034)  DATA NOT AVAILABLE
- (RAP035)  DATA NOT AVAILABLE

X-INBD 2Y1-B 2Y0-B BX

56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

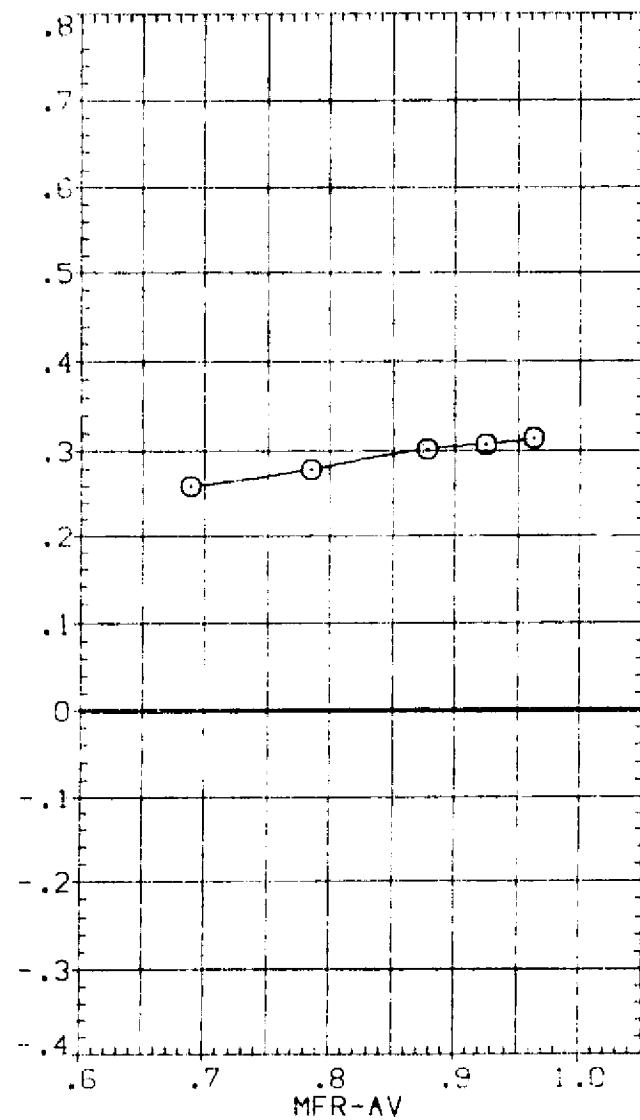
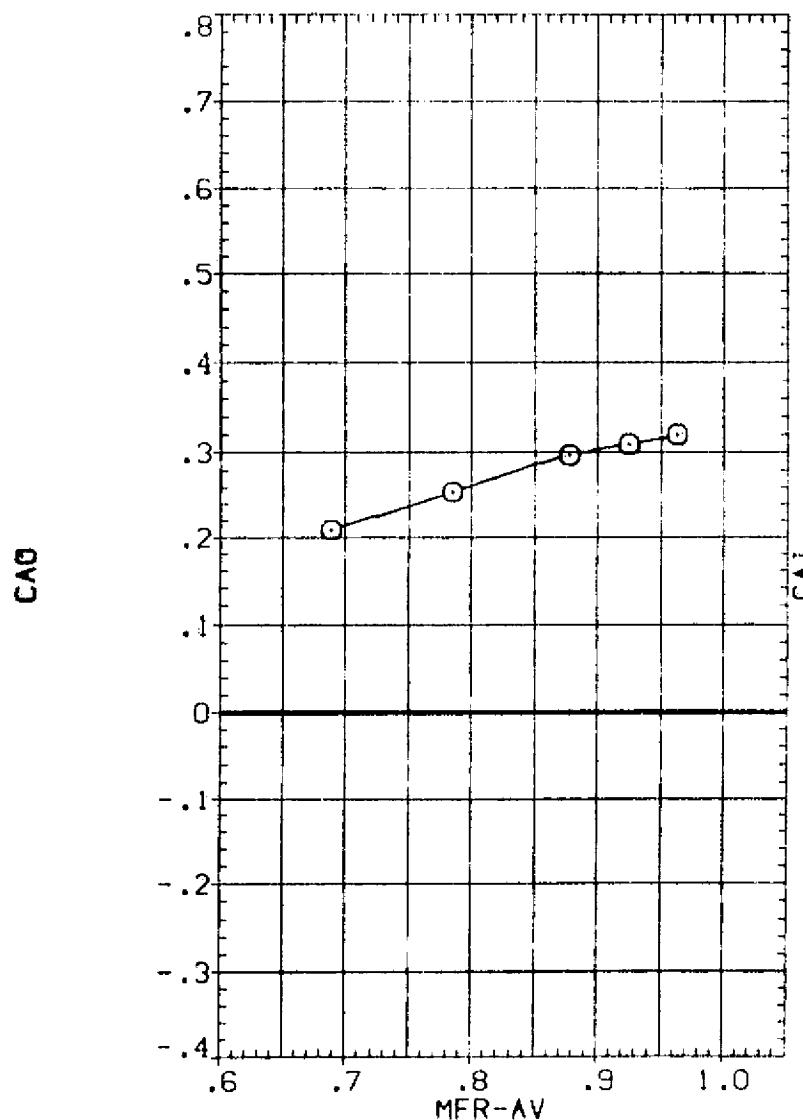


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)  B N1 N1
 (RAP023)  DATA NOT AVAILABLE
 (ZAP024)  DATA NOT AVAILABLE
 (RAP034)  DATA NOT AVAILABLE
 (RAP035)  DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

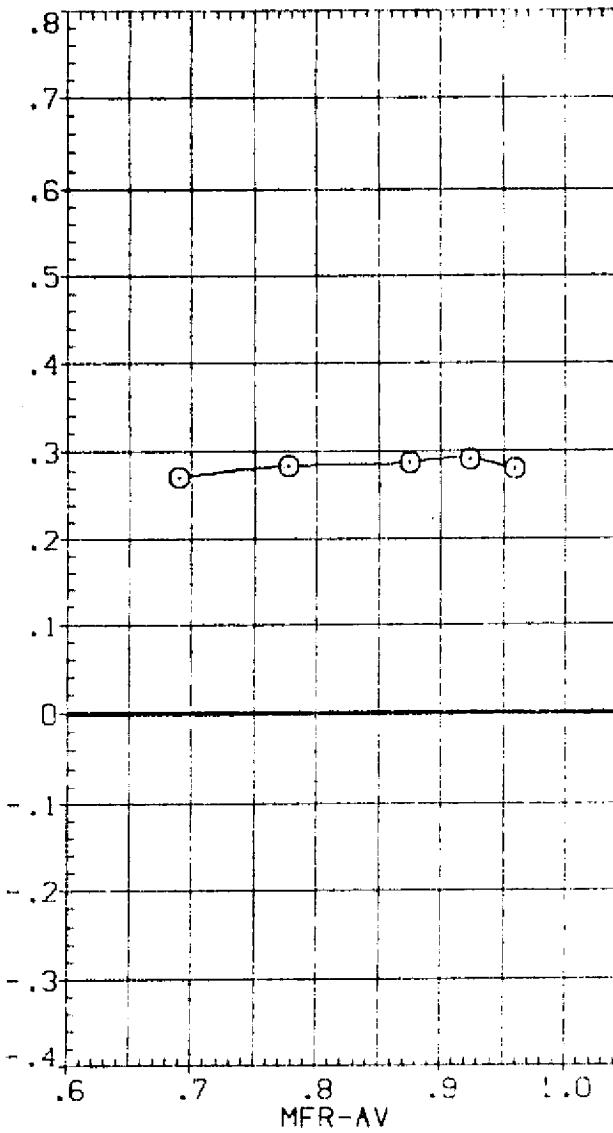
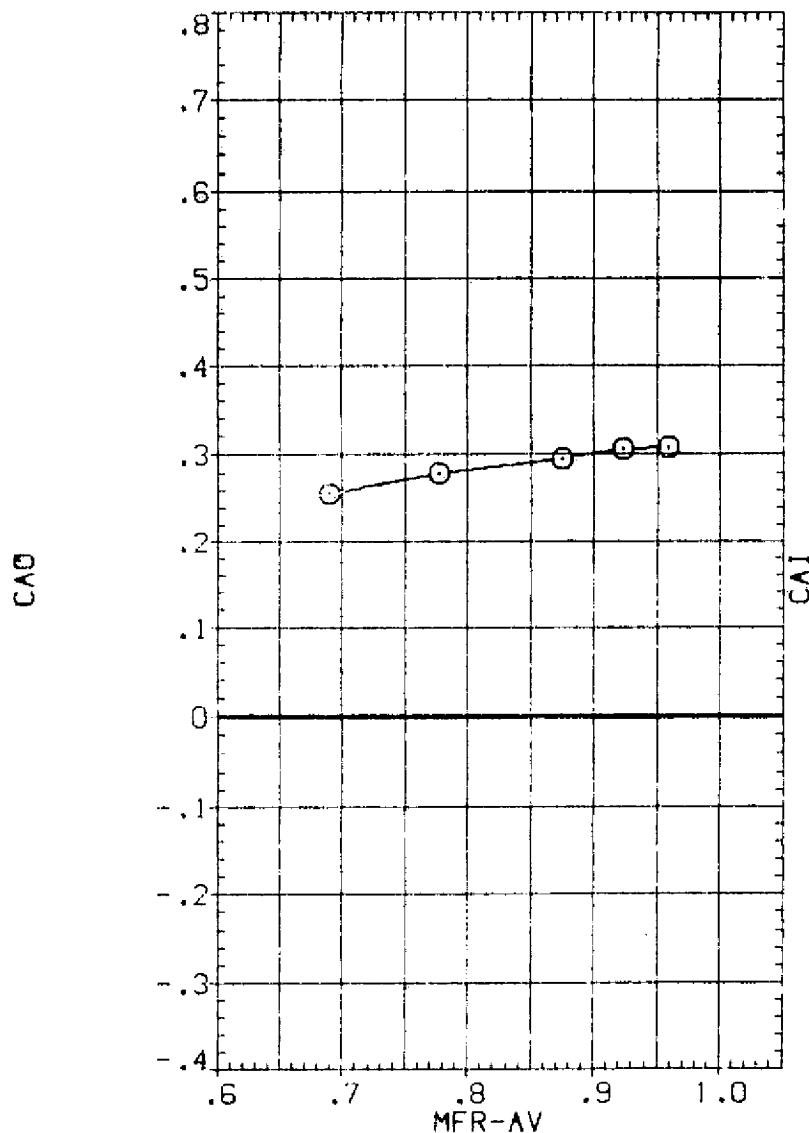


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP022)	○	✓ N1 N1
(RAP023)	○	✓ N1 N1
(ZAP024)	○	✓ N1 N1
(RAP034)	△	✓ N2 N2
(RAP035)	△	✓ N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

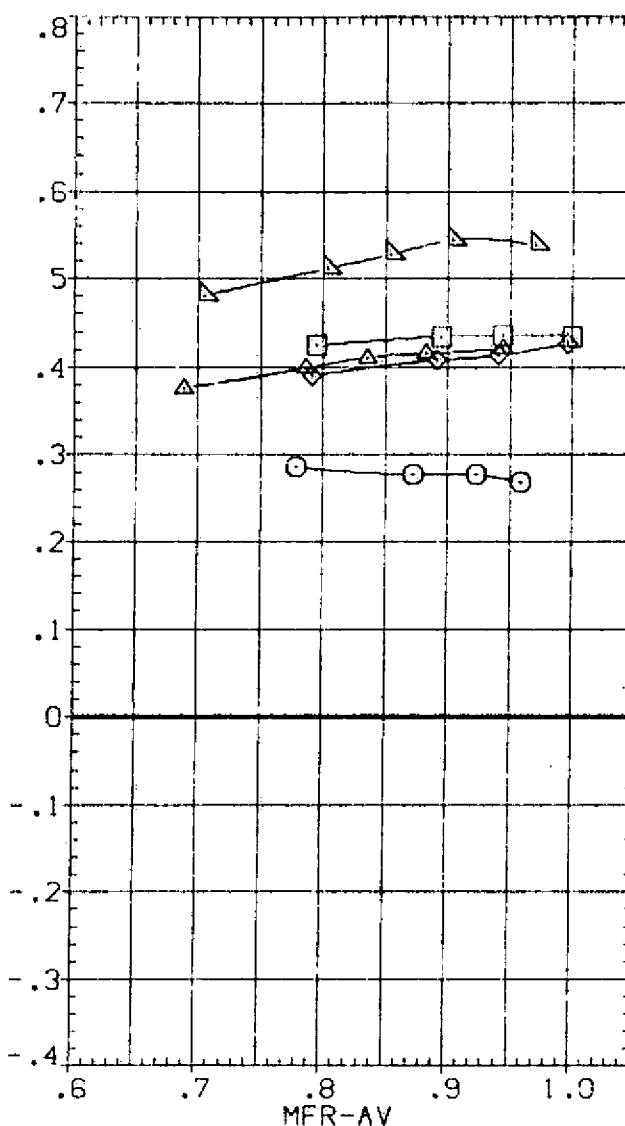
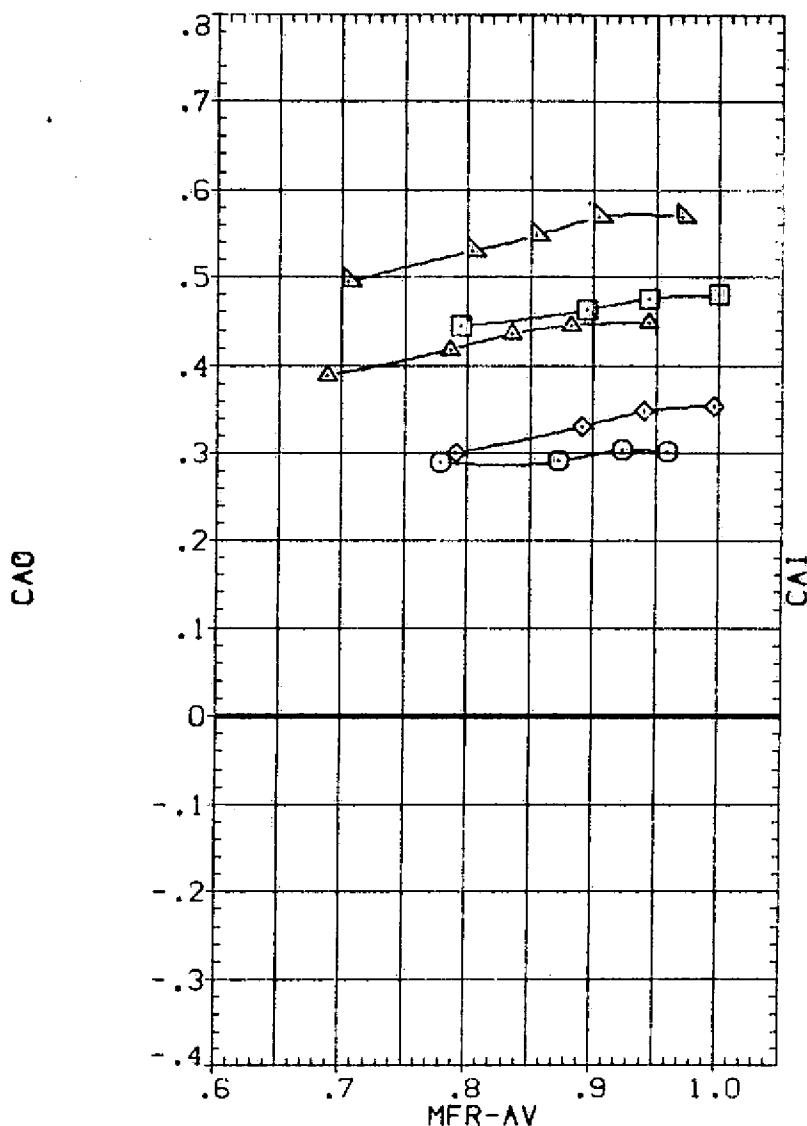


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 119

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22)  W B N1 N1
 (BAPO23)  DATA NOT AVAILABLE
 (BAPO24)  DATA NOT AVAILABLE
 (BAPO34)  DATA NOT AVAILABLE
 (BAPO35)  DATA NOT AVAILABLE

X-1INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

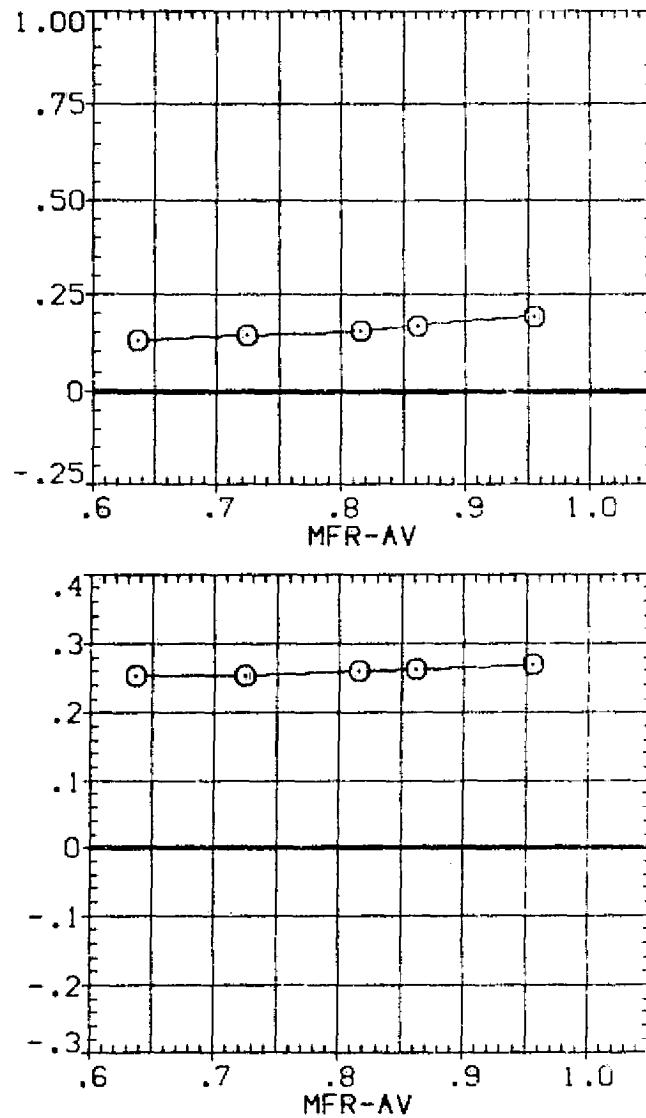
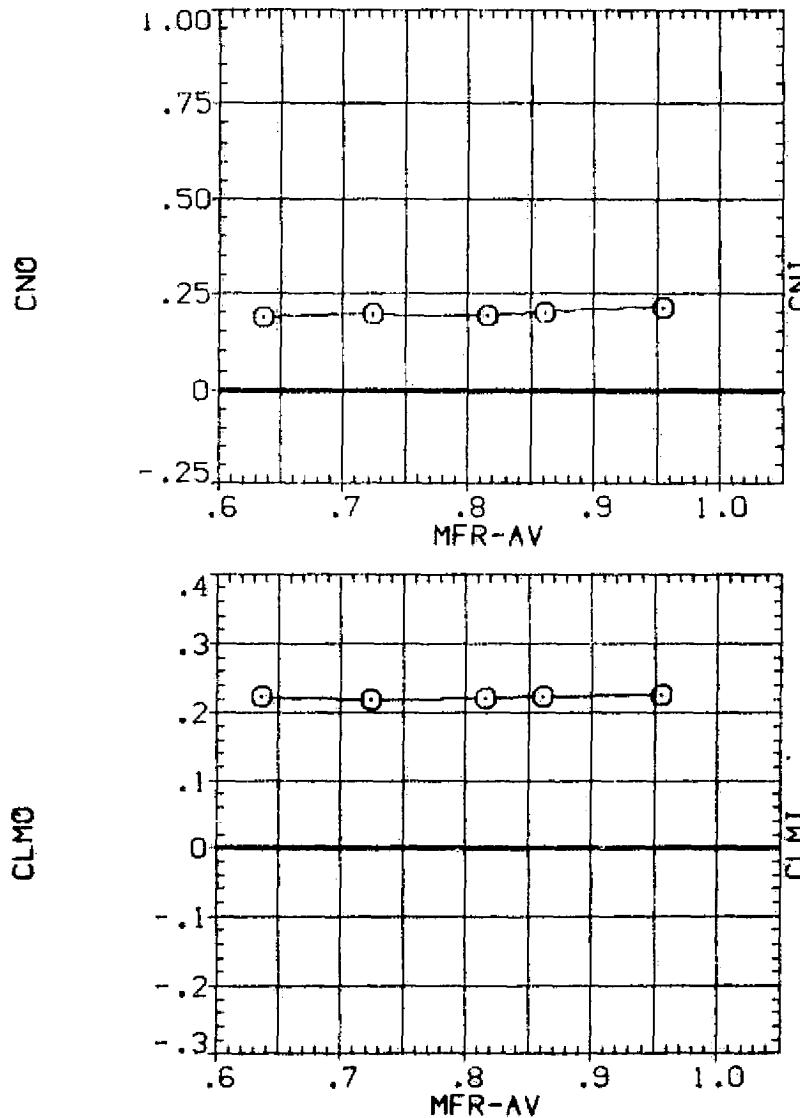


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

CADMACH = .90

PAGE 120

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022) \square ∇ B N1 N1
 (BAP023) \square ∇ B N1 N1
 (BAP024) \times ∇ B N1 N1
 (BAP034) \times ∇ B N2 N2
 (BAP035) \times ∇ B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
49,000	.250	.550	.000

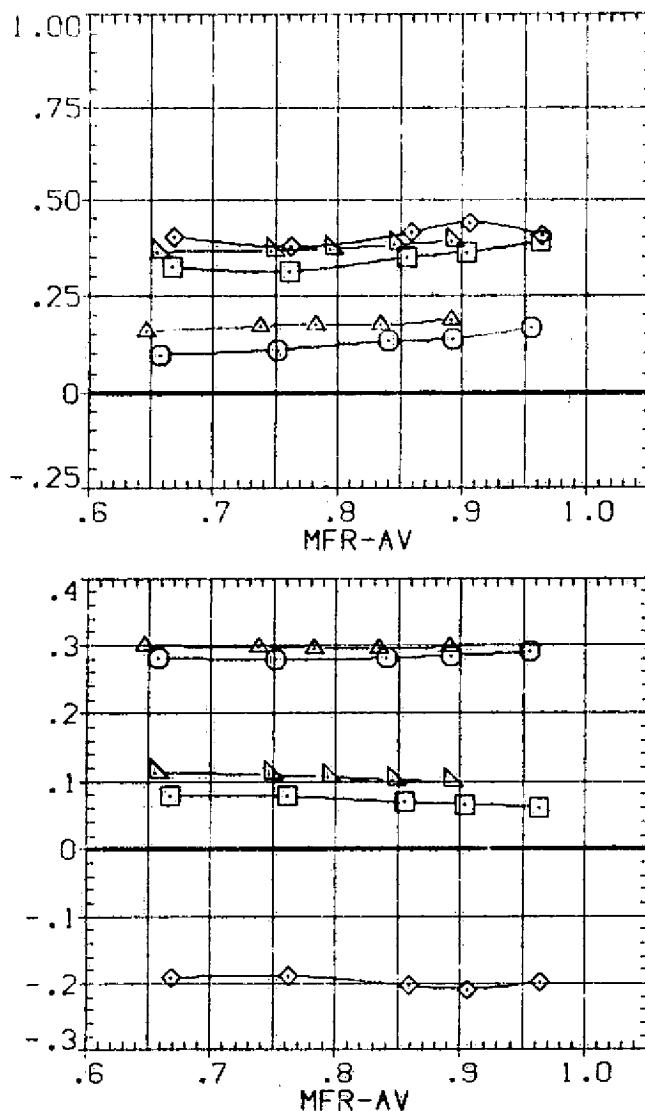
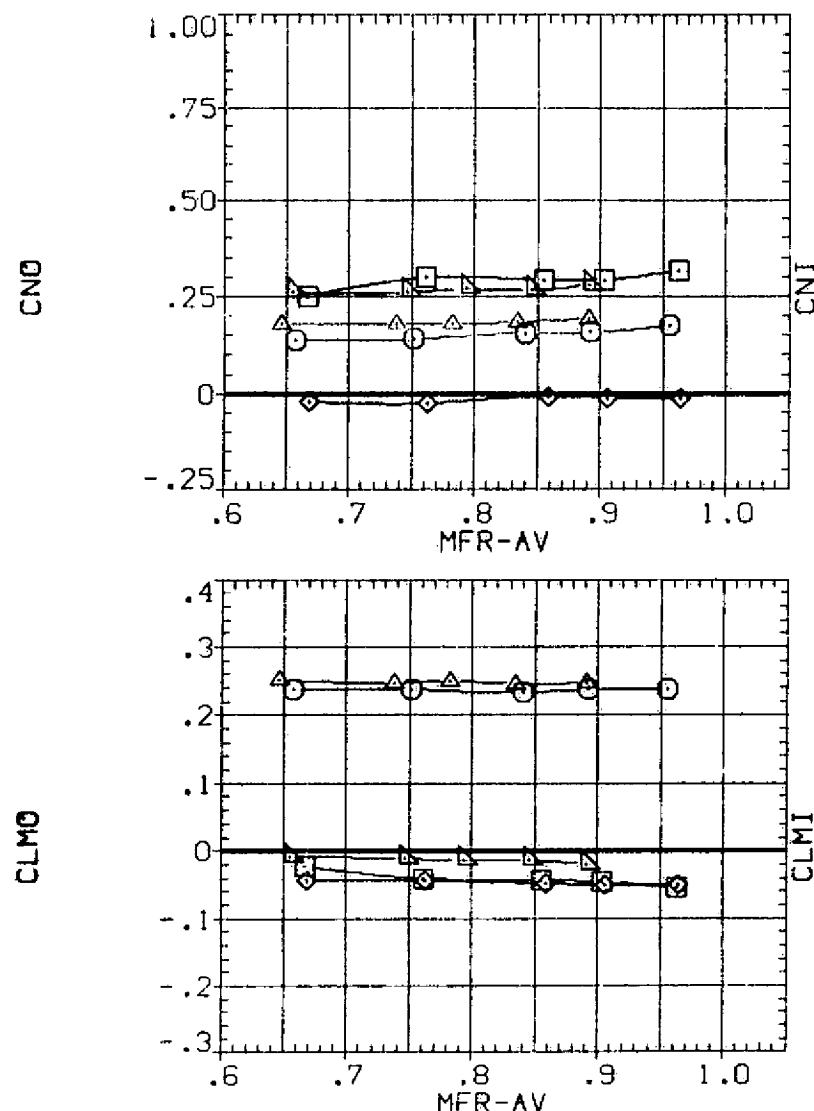


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22) \bigcirc DATA NOT AVAILABLE

(BAPO23) \square DATA NOT AVAILABLE

(BAPO24) \times DATA NOT AVAILABLE

(BAPO35) Δ DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

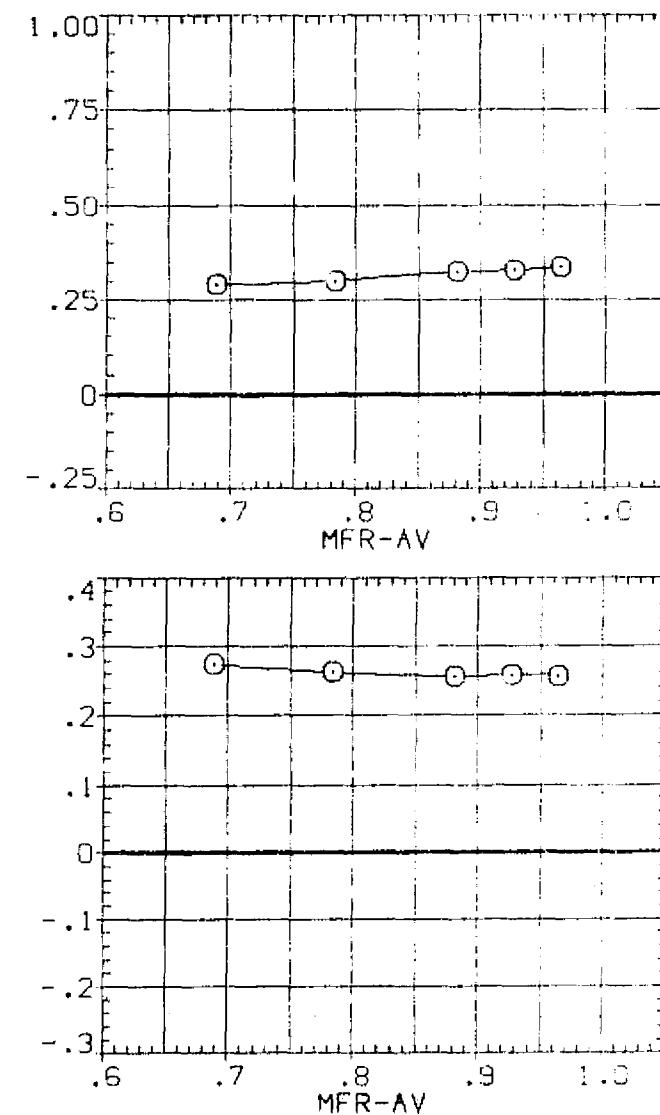
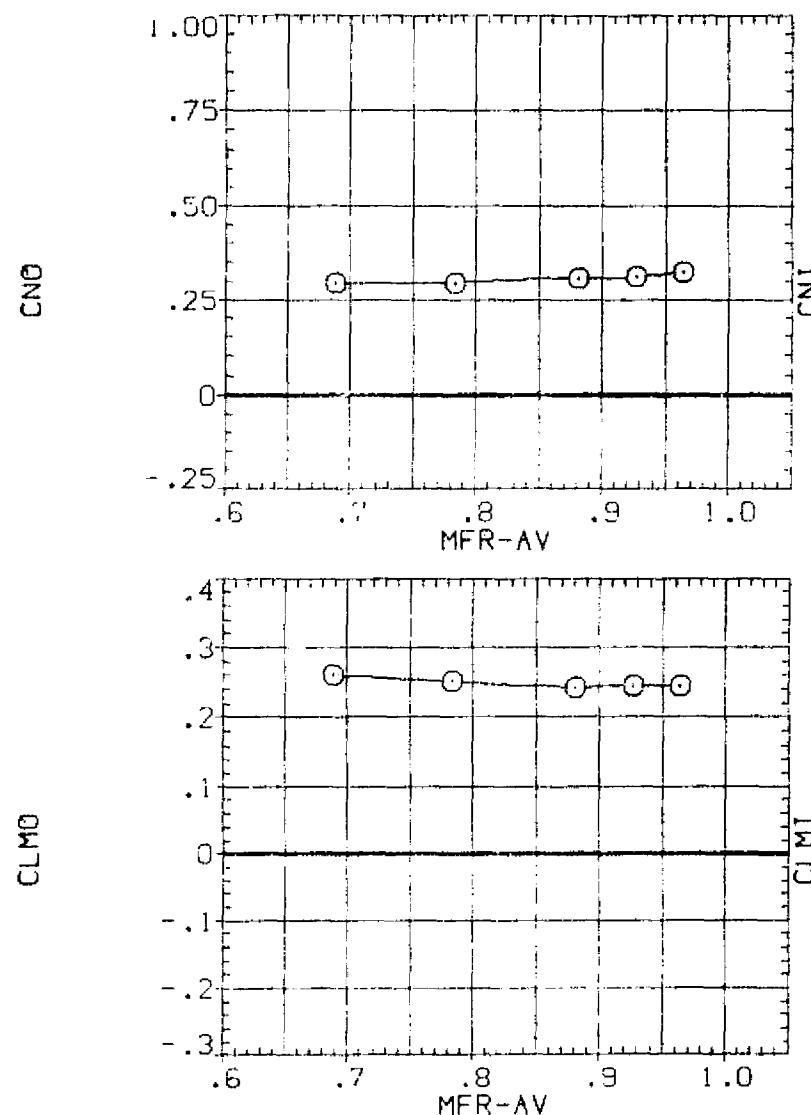


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 122

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22)	□	✓ B N1 N1
(BAPO23)	□	✓ B N1 N1
(BAPO24)	△	✓ B N1 N1
(BAPO34)	△	✓ B 12 12
(BAPO35)	△	✓ B 12 12

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.010
48.000	.250	.550	.000

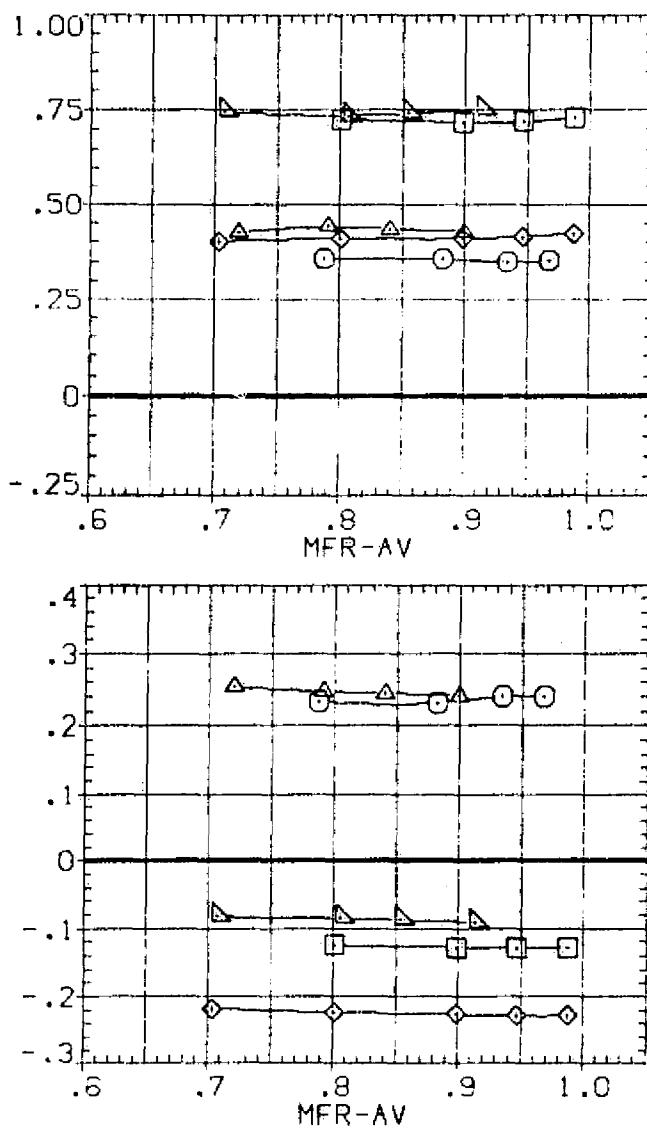
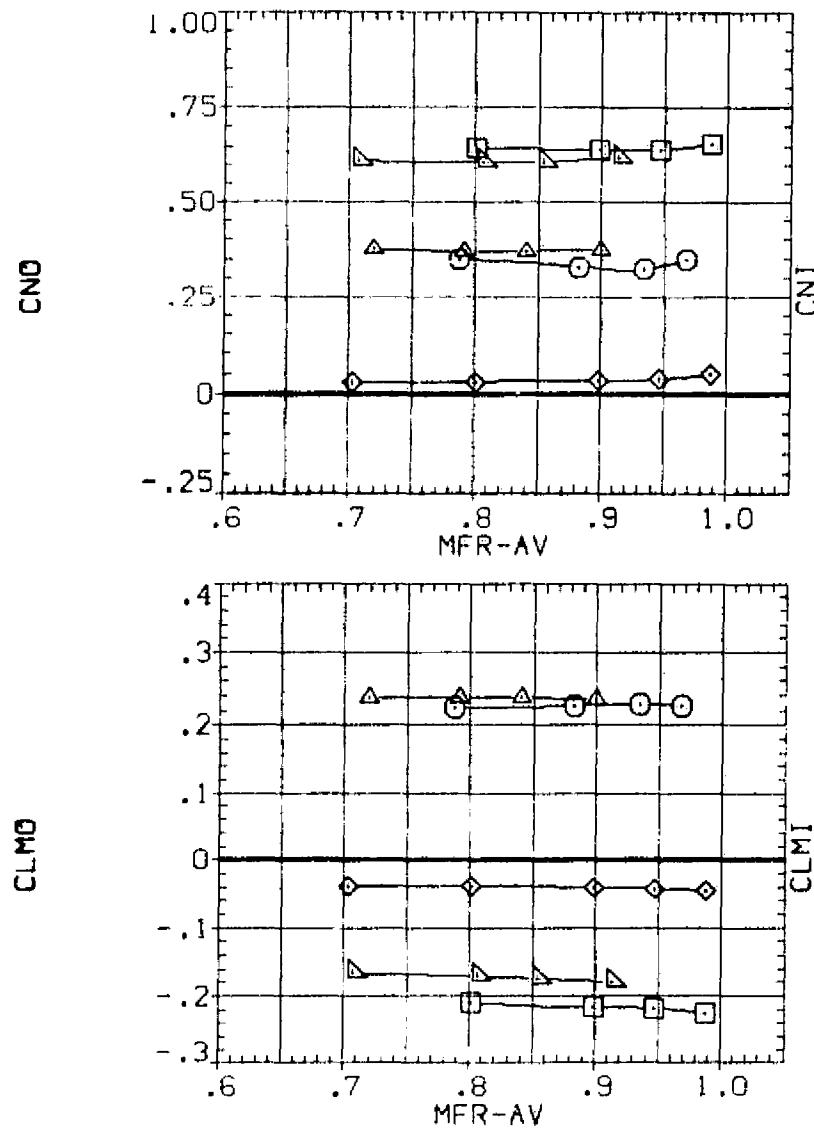


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 123

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22) O W B N1 N1
 (BAPO23) X DATA NOT AVAILABLE
 (BAPO24) S DATA NOT AVAILABLE
 (BAPO34) T DATA NOT AVAILABLE
 (BAPO03) F DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	0X
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

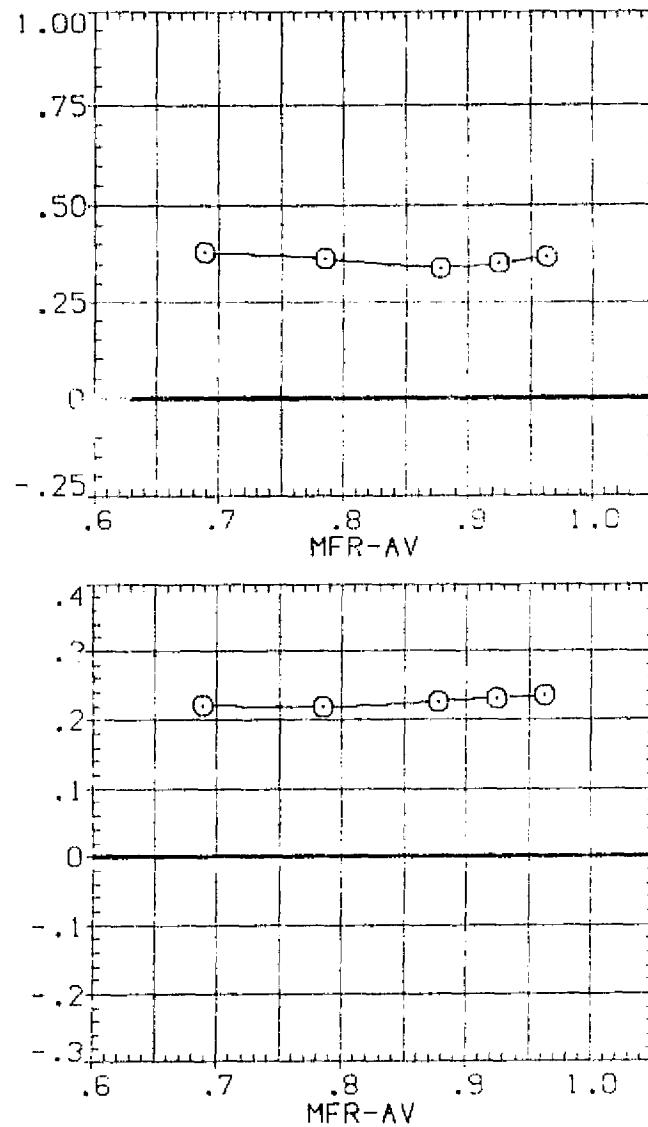
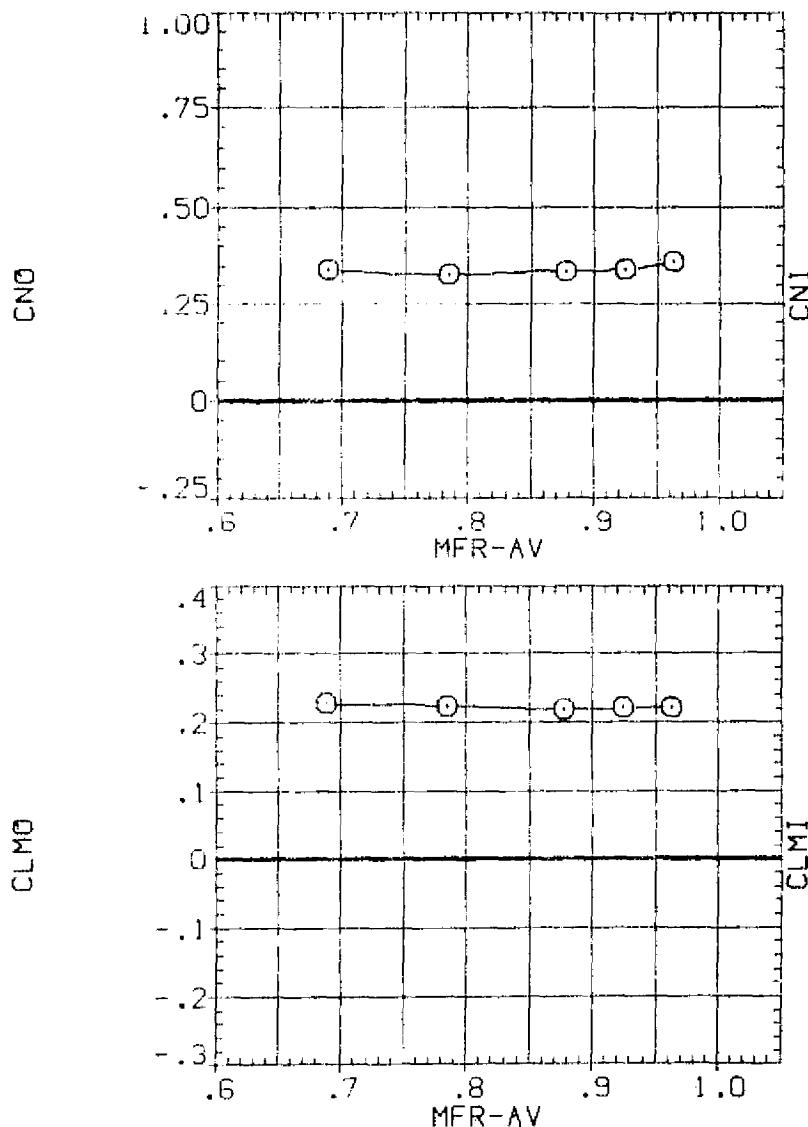


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

GEOMACH = 1.20

PAGE 124

DATA SET SYMBOL CONFIGURATION DESCRIPTION

BAP022	○	▼ B N1 N1
BAP023	○○	DATA NOT AVAILABLE
BAP024	○○○	DATA NOT AVAILABLE
BAP034	△△	DATA NOT AVAILABLE
BAP035	△△△	DATA NOT AVAILABLE

X-INCH 2Y1/B 2Y0/B DX

56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

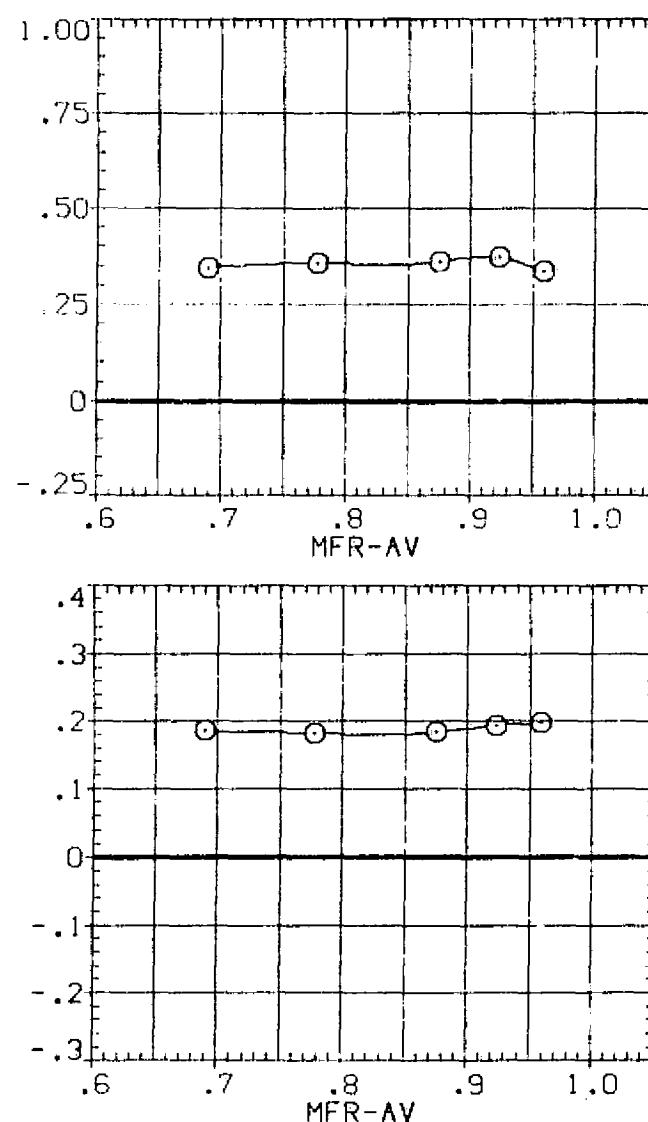
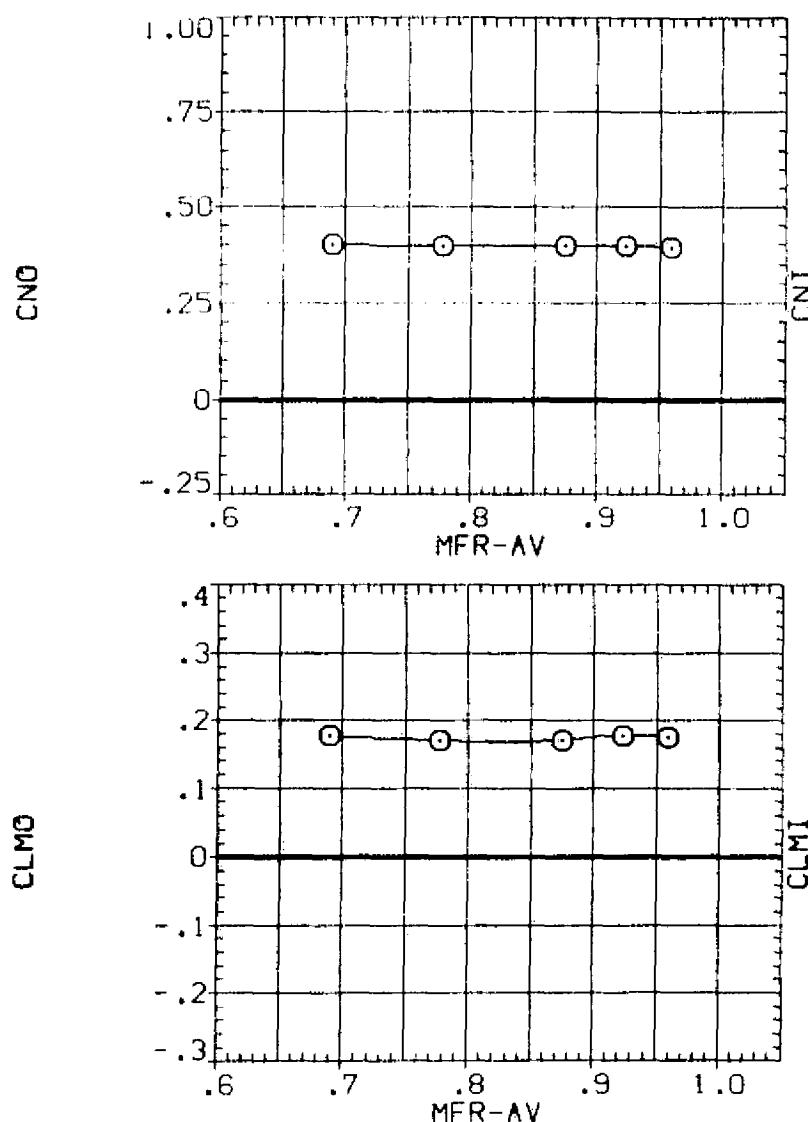


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 125

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022)	○	W B NI NI
(BAP023)	×	W B NI NI
(BAP024)	×	W B NI NI
(BAP034)	△	W B N2 N2
(BAPU35)	□	W B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

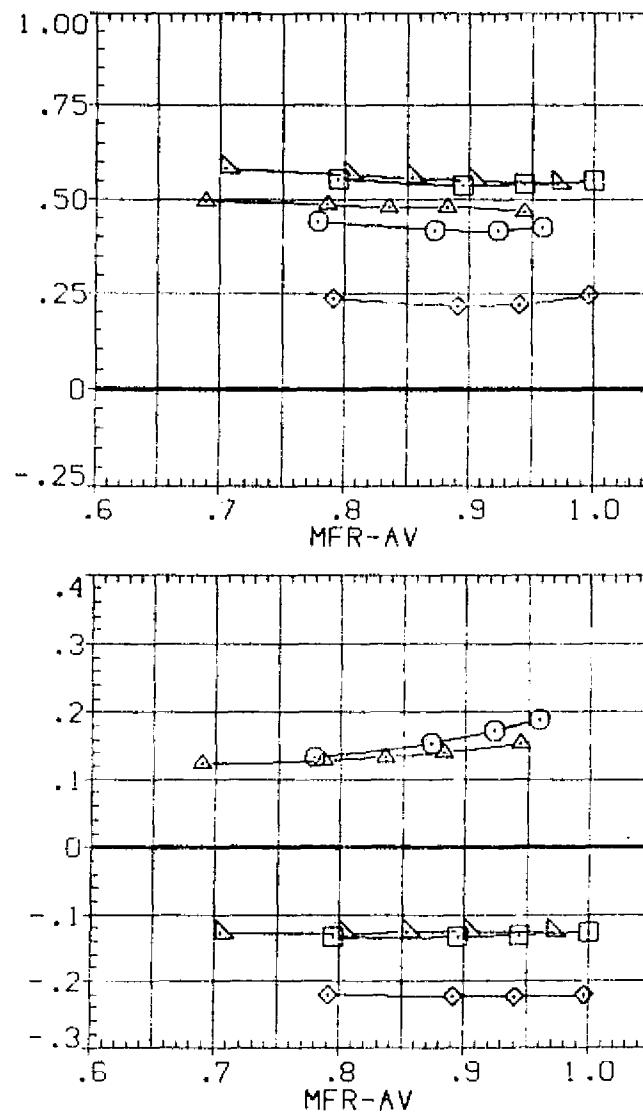
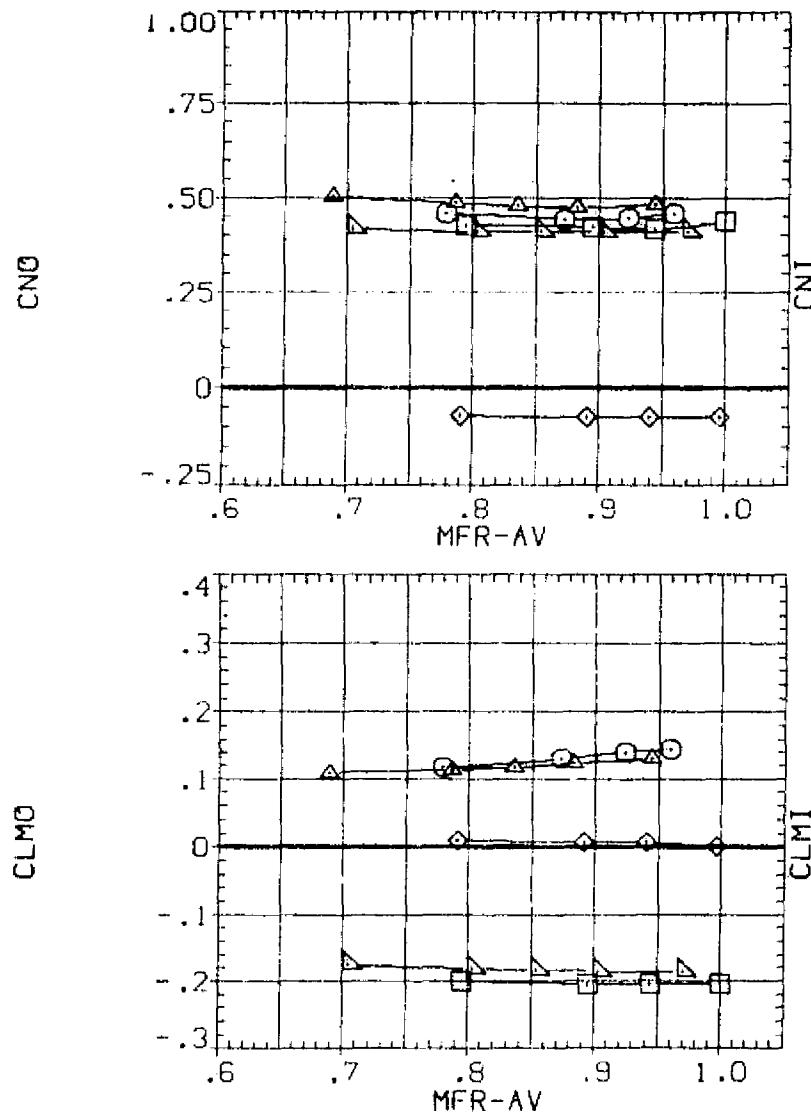


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

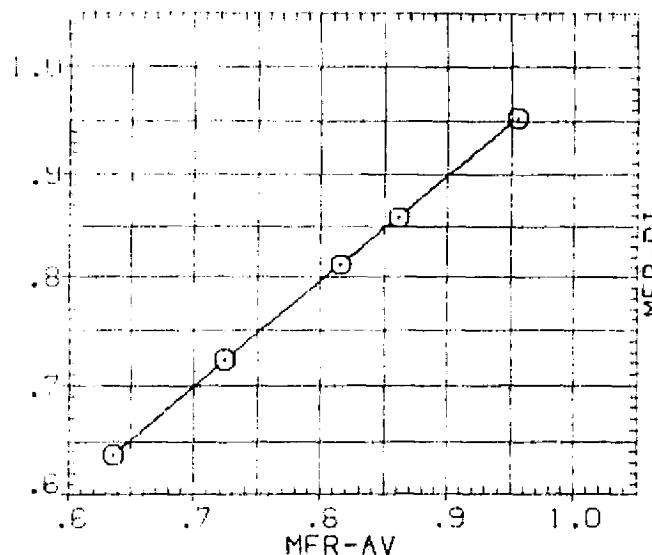
(G)MACH = 1.40

PAGE 126

DATA AND COPIES
DATA NOT AVAILABLE
DATA NOT AVAILABLE
DATA NOT AVAILABLE
DATA NOT AVAILABLE

X 1680 2010 2010 2010
56.000 400 400 400
400 400 400 400
400 400 400 400

MFR-RO



MFR-L0

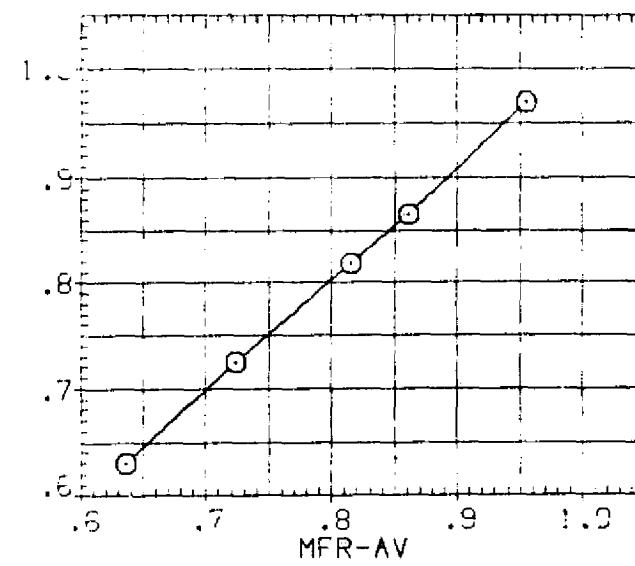
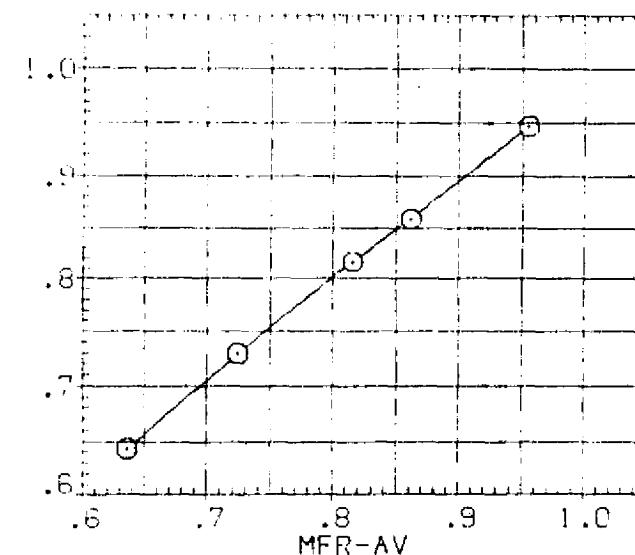
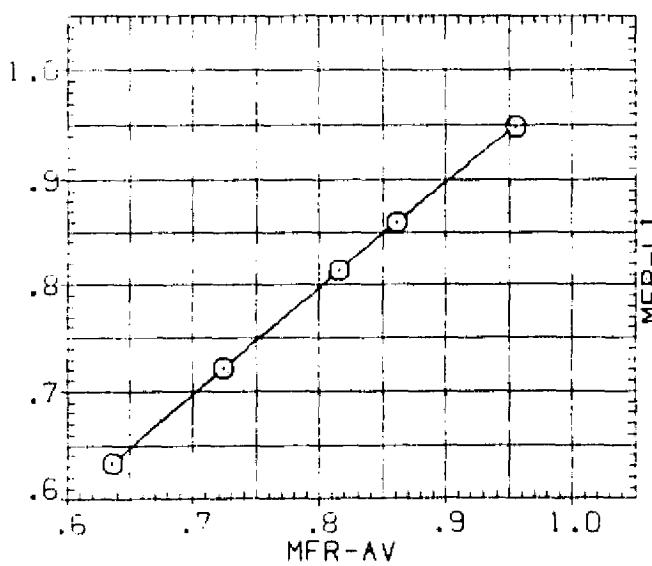


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

CADMACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22)	○	■	○	■	N1 N1
(BAPO23)	○	■	○	■	N1 N1
(BAPO24)	○	■	○	■	N1 N1
(BAPO34)	○	■	○	■	N2 N2
(BAPO35)	○	■	○	■	N2 N2

X-INBU	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

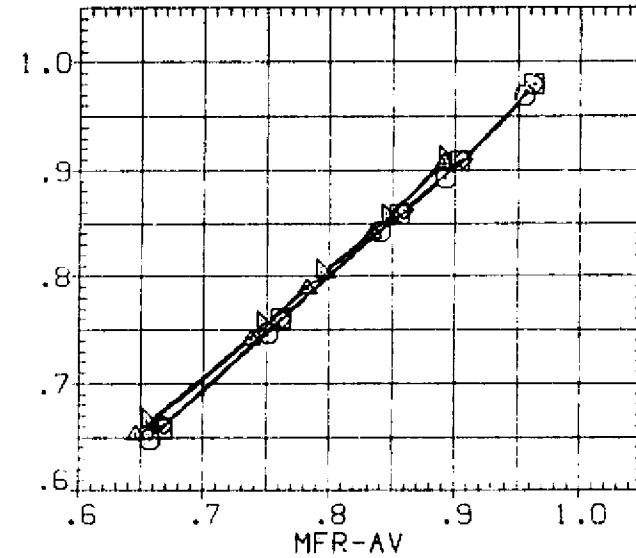
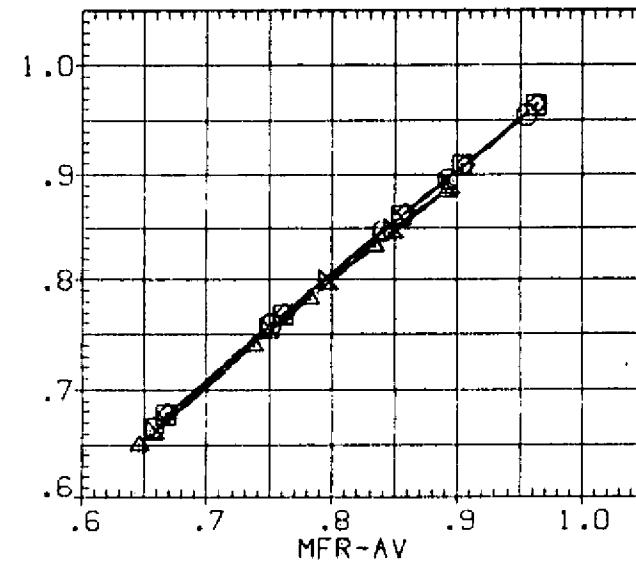
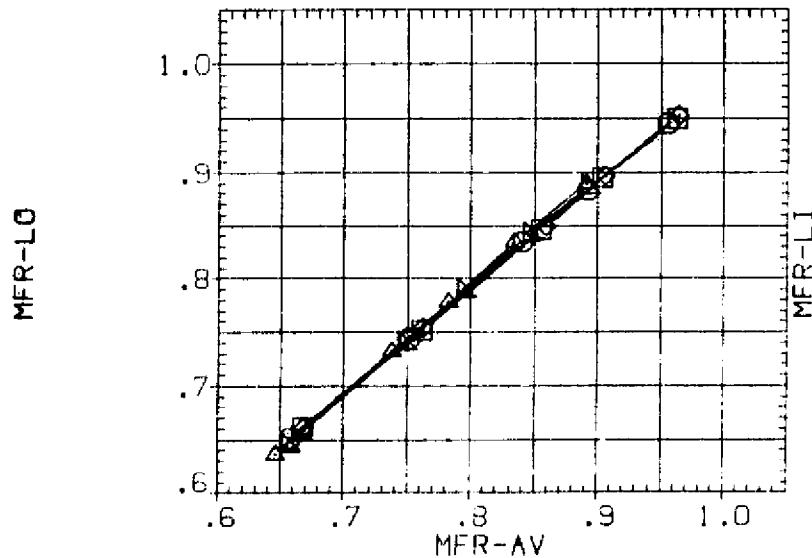
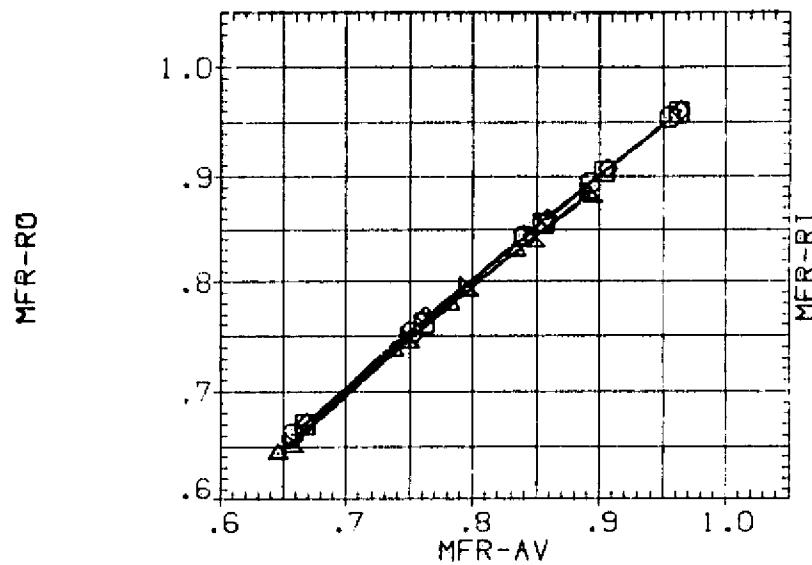


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22) \circ V B N1 N1
 (BAPO23) \square DATA NOT AVAILABLE
 (BAPO24) \times DATA NOT AVAILABLE
 (BAPO34) \times DATA NOT AVAILABLE
 (BAPO35) \square DATA NOT AVAILABLE

X- IN/B	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

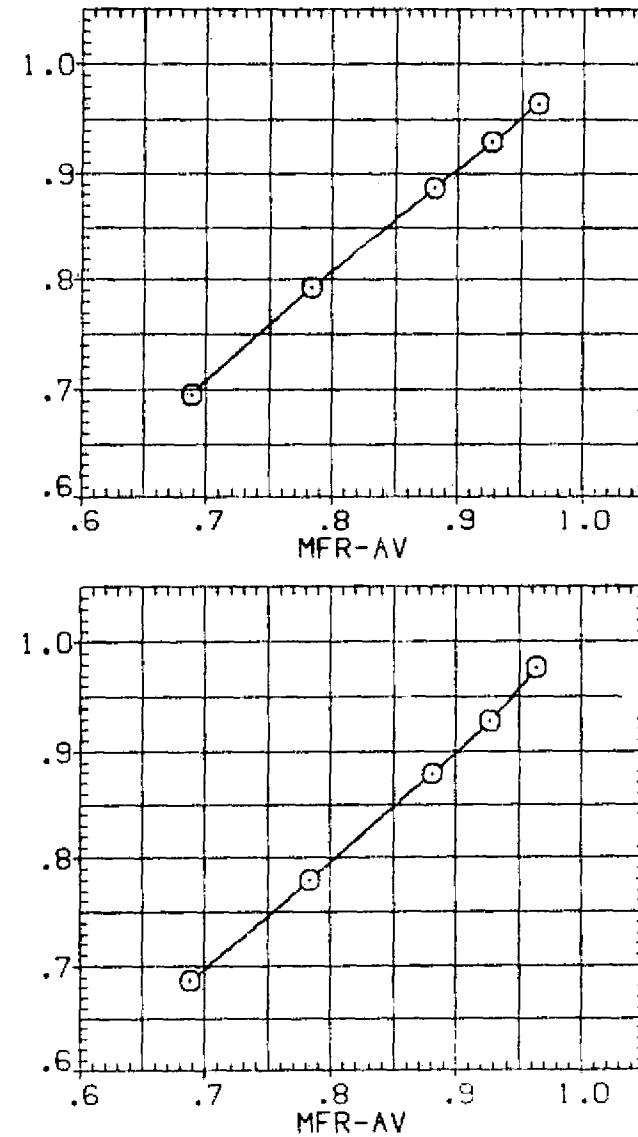
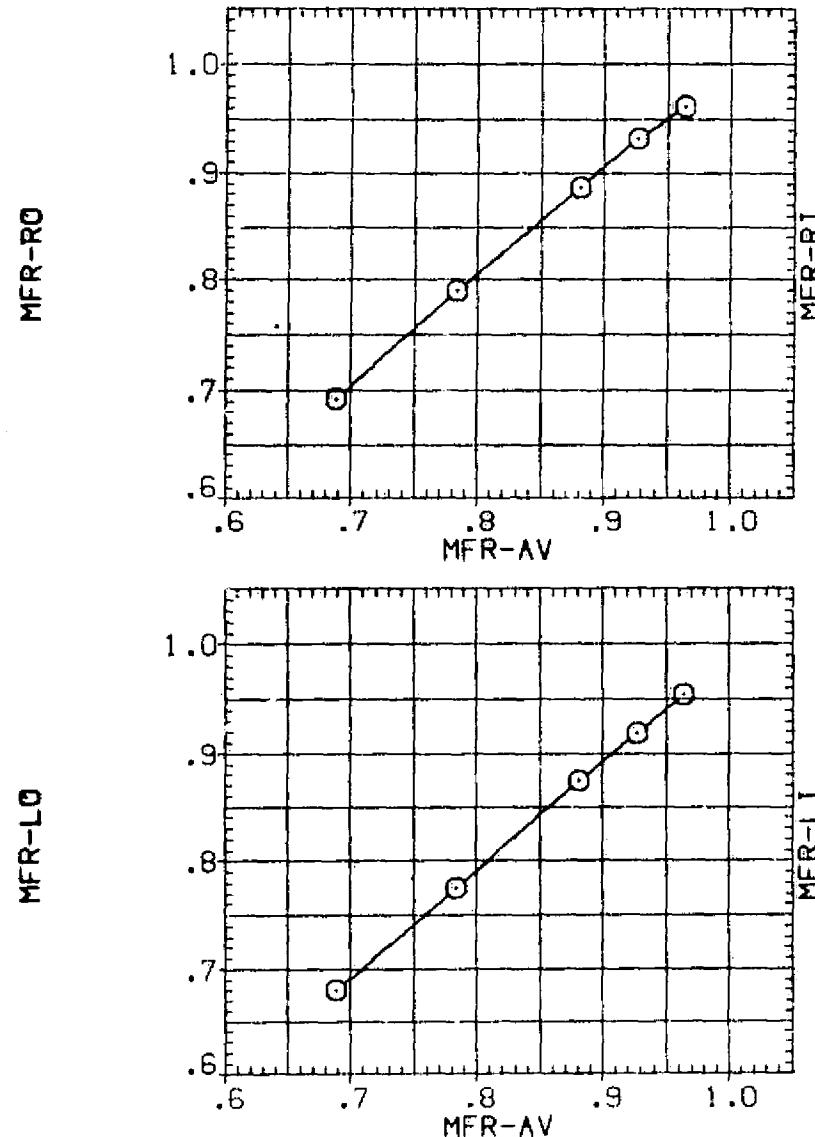


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022)	□	W B N1 N1
(BAP023)	□□	W B B N1 N1
(BAP024)	XX	W B B N1 N1
(BAP034)	▽	W B N2 N2
(BAP035)	▽▽	W B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

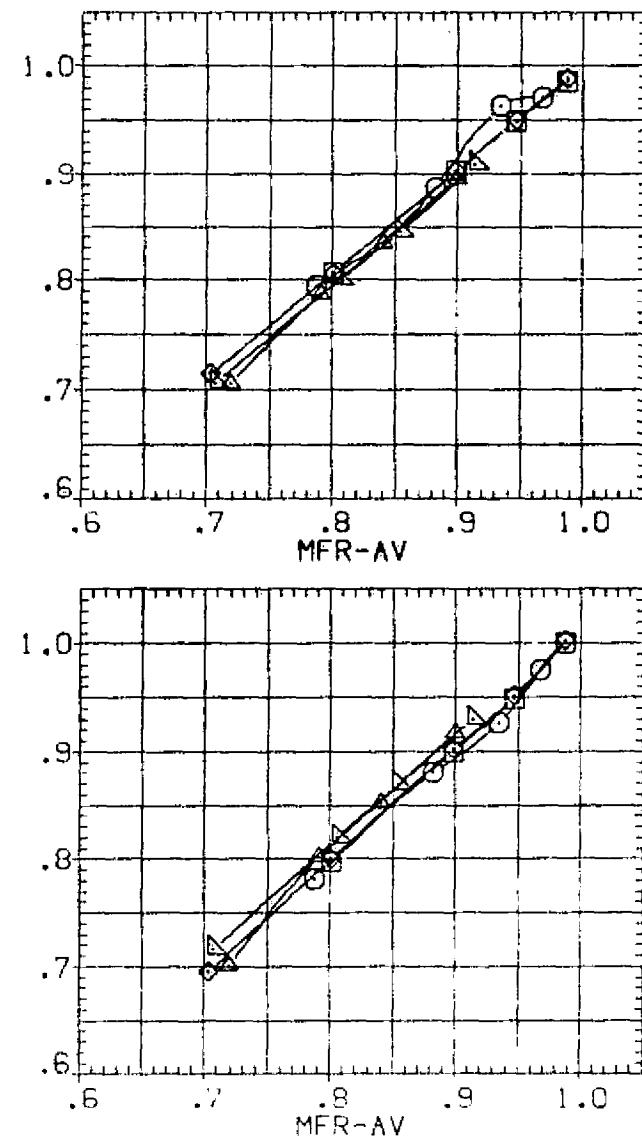
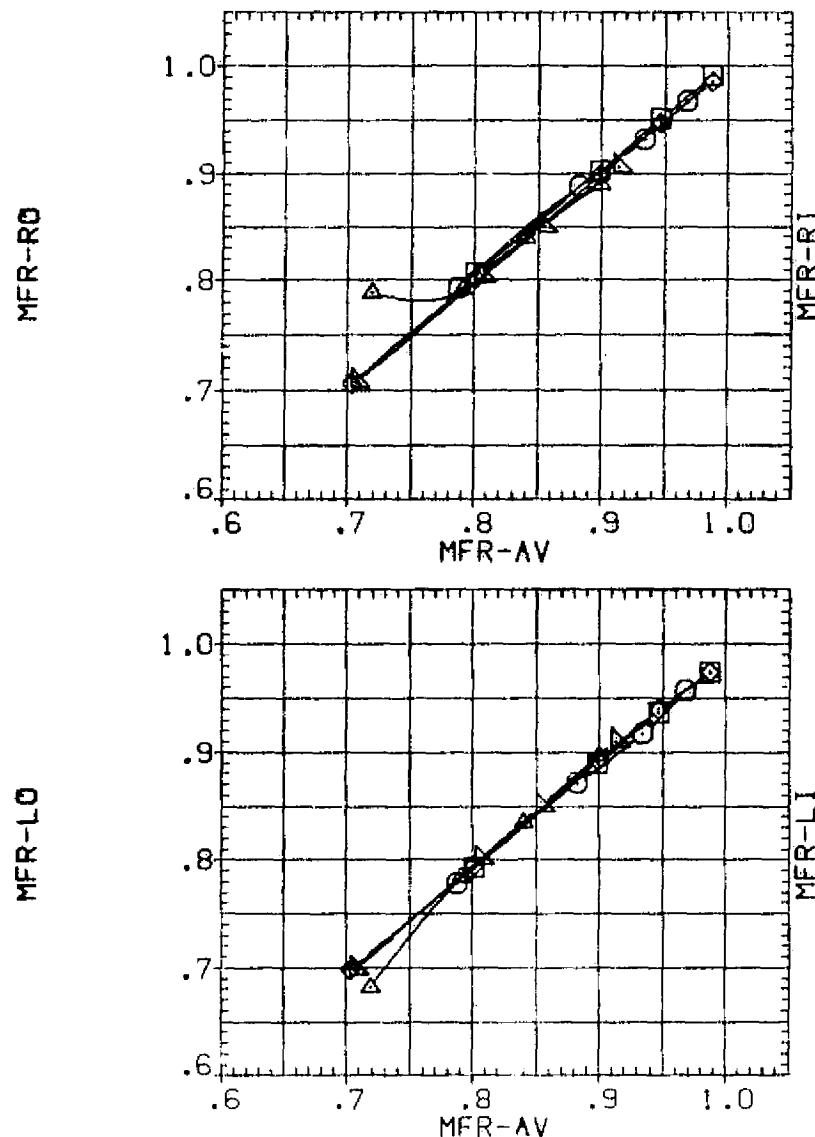


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 130

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22) \bigcirc W B N1 N1
 (BAPO23) \square DATA NOT AVAILABLE
 (BAPO24) \diamond DATA NOT AVAILABLE
 (BAPO34) \triangle DATA NOT AVAILABLE
 (BAPO35) ∇ DATA NOT AVAILABLE

X-1N60	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

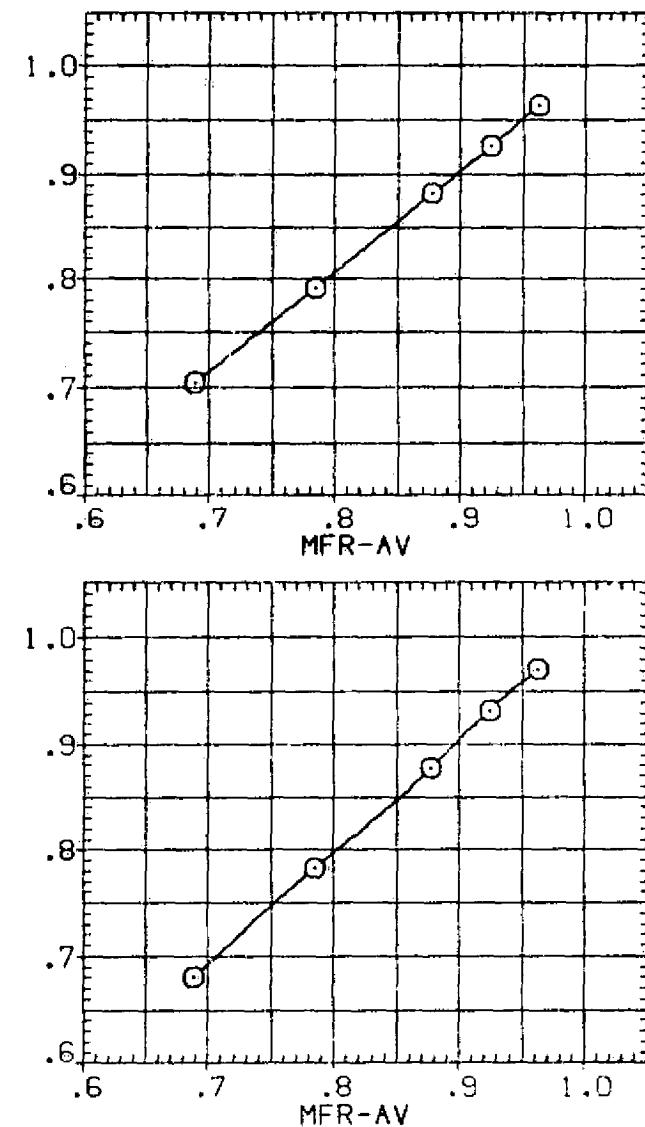
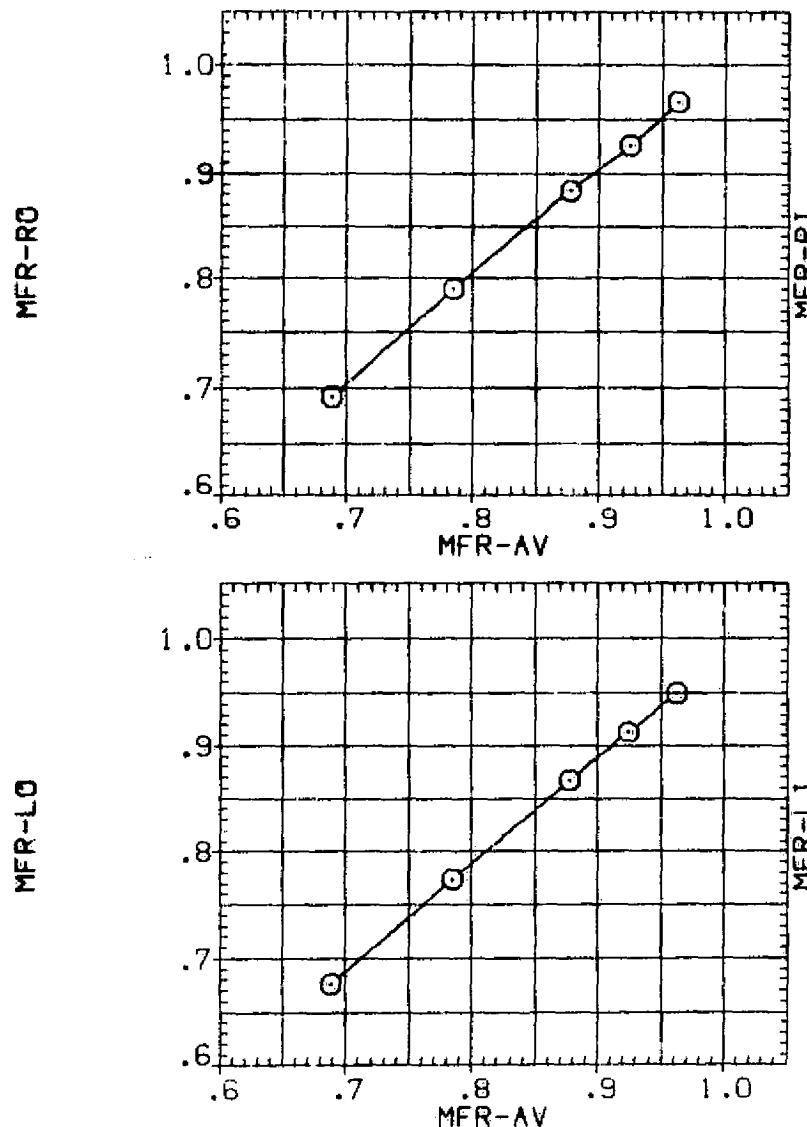


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

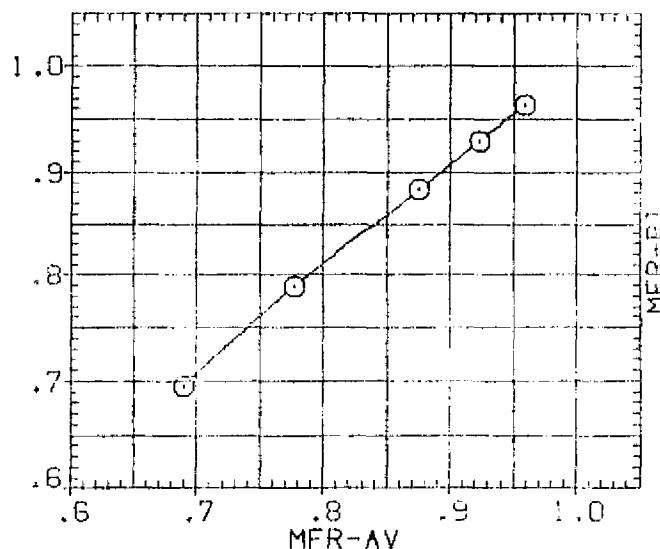
(E)MACH = 1.20

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022) \square W B N1 N1
 (BAP023) \square DATA NOT AVAILABLE
 (BAP024) \times DATA NOT AVAILABLE
 (BAP034) \times DATA NOT AVAILABLE
 (BAP035) \square DATA NOT AVAILABLE

X-1NB0	2Y1/B	2Y0/B	0%
56,000	.250	.550	.100
48,000	.250	.550	.000
40,000	.250	.550	.040
56,000	.250	.550	.040
48,000	.250	.550	.030

MFR-RC



MFR-L0

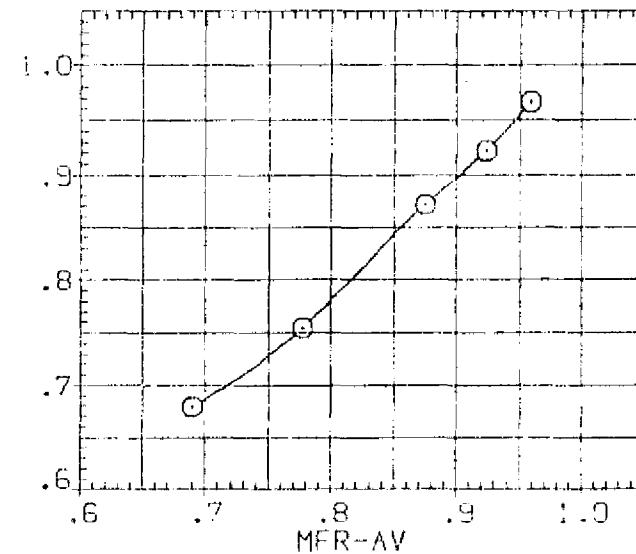
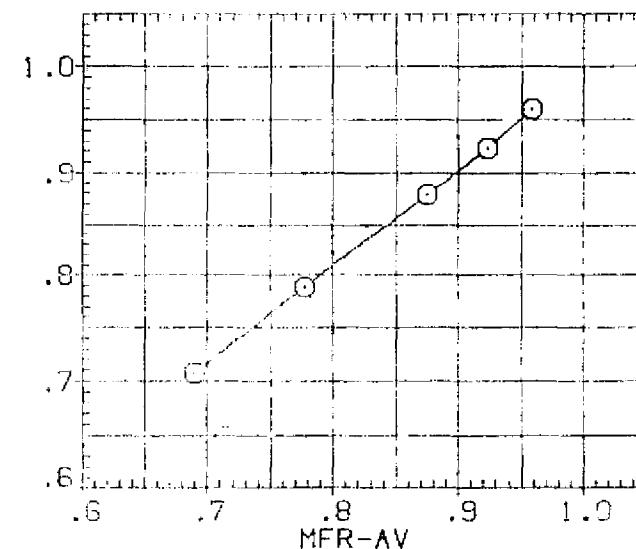
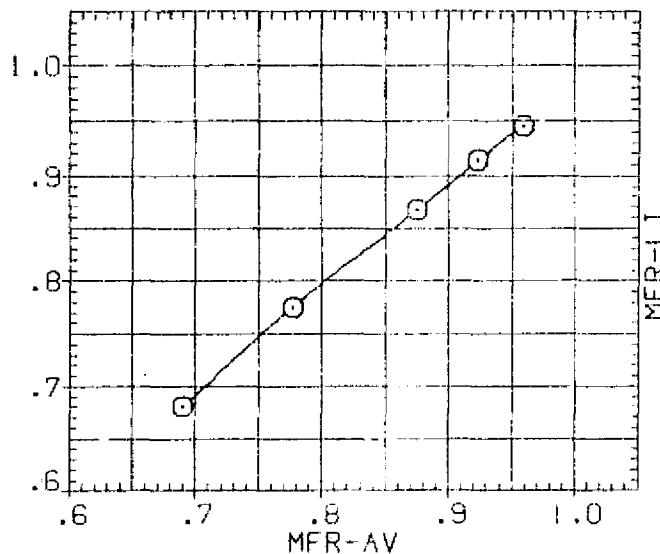


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 132

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22)	□	W B N1 N1
(BAPO23)	○	W B N1 N1
(BAPO24)	△	W B N1 N1
(BAPO34)	×	W B N2 N2
(BAPO35)	△	W B N2 N2

X-1N8D	2Y1/8	2Y0/8	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

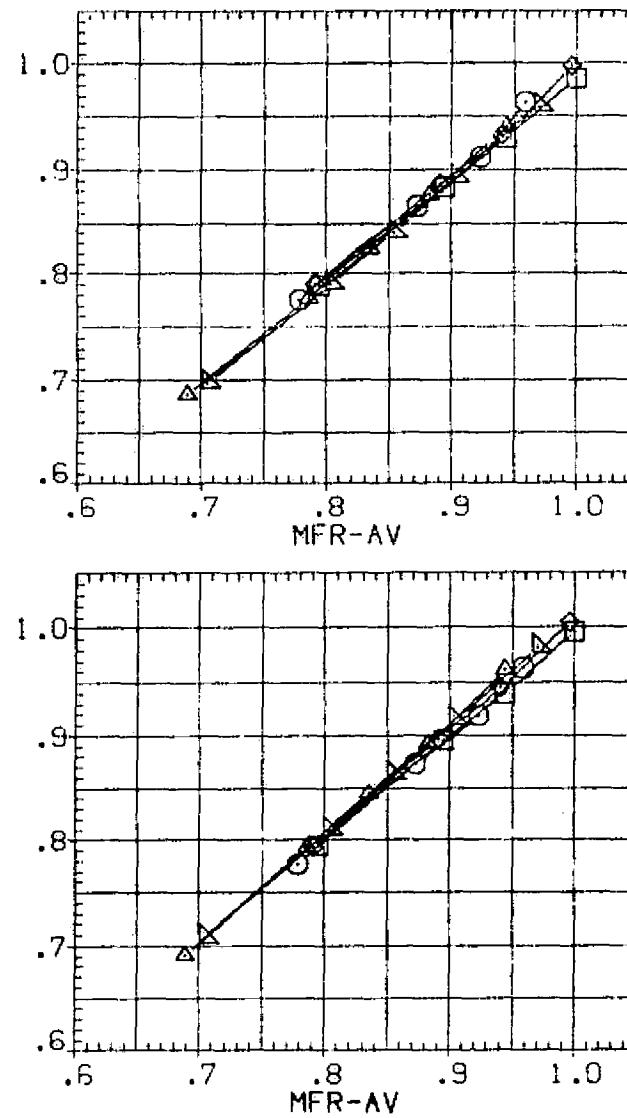
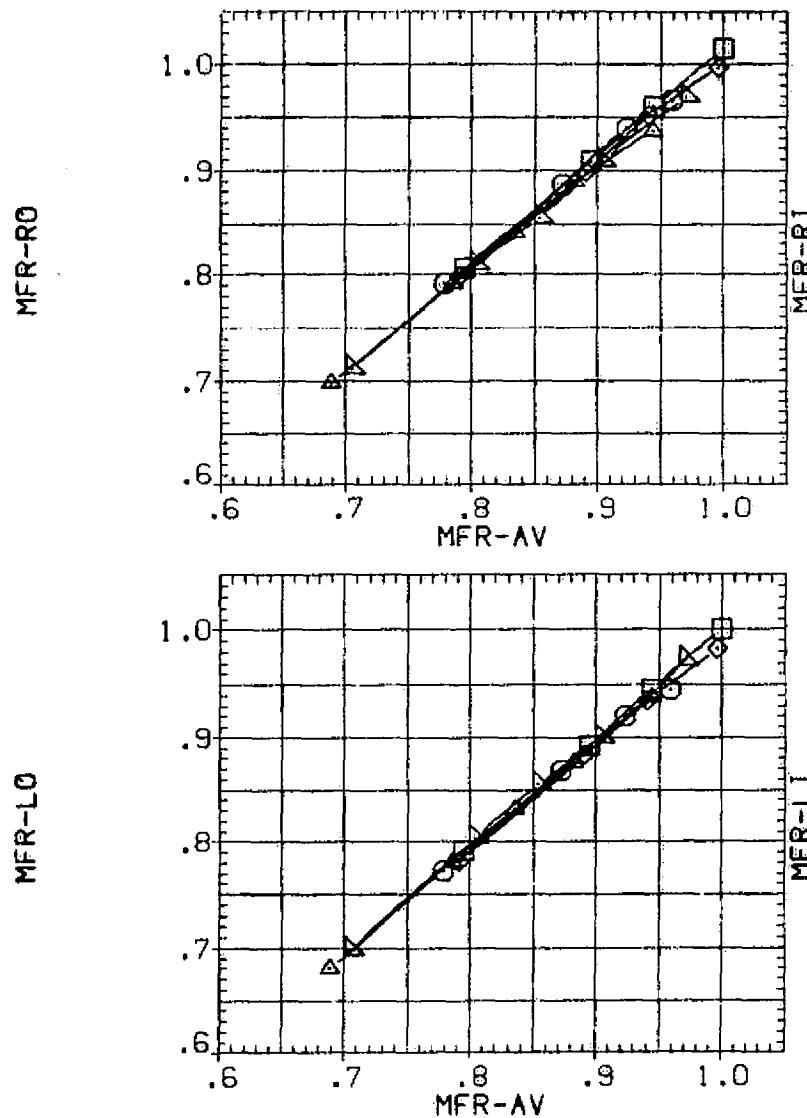


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(BAPO22)	W B N1, N1
(BAPO23)	DATA NOT AVAILABLE
(BAPO24)	DATA NOT AVAILABLE
(BAPO34)	DATA NOT AVAILABLE
(BAPO35)	DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

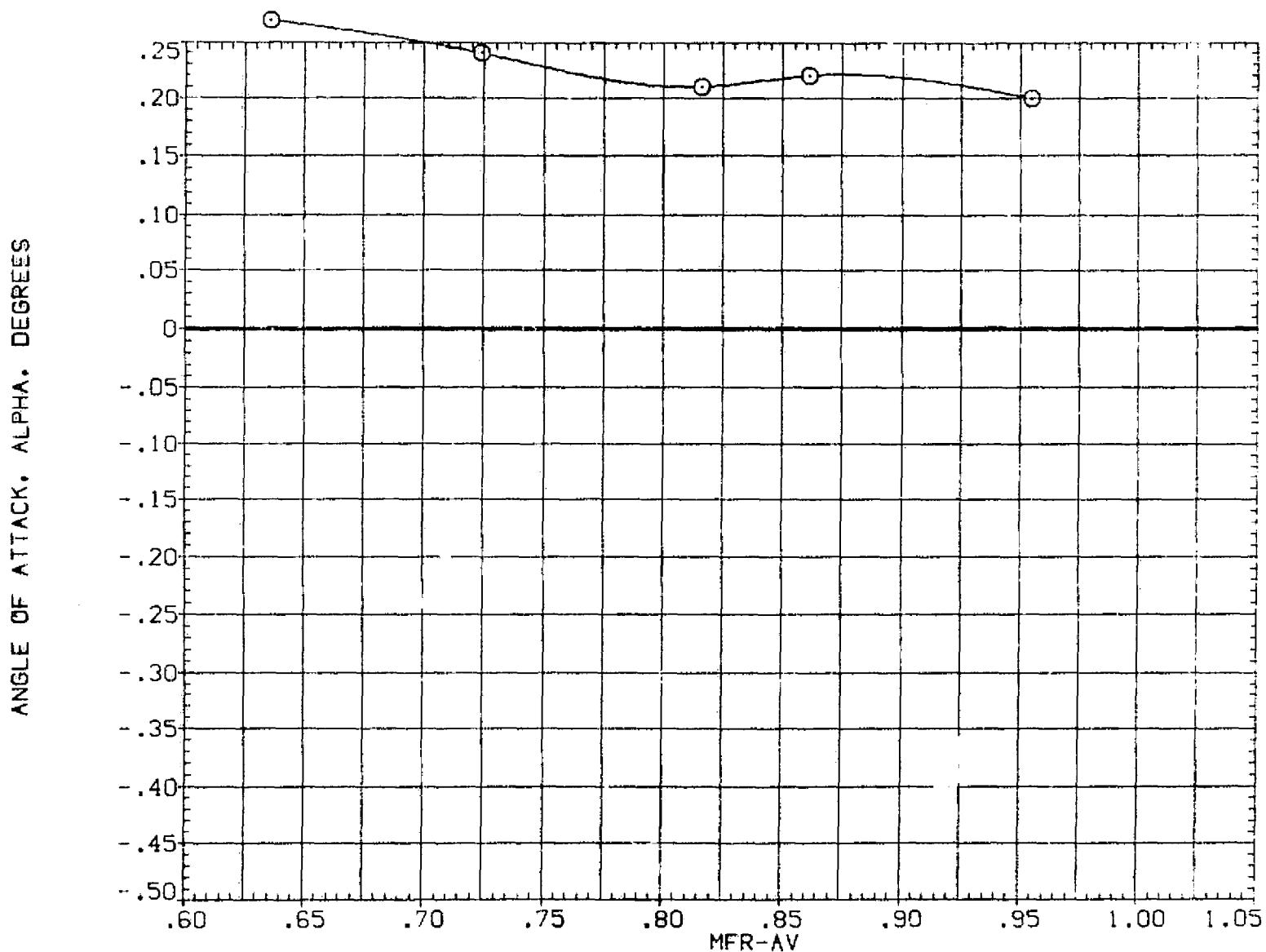


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 134

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022)	○	✓ R N1 N1
(BAP023)	□	✓ B N1 N1
(BAP024)	△	✓ B N1 N1
(BAP034)	×	✓ B N2 N2
(BAP035)	▽	✓ B N2 N2

X-INCH	ZY1/B	ZY2/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,010	.250	.550	.000
48,000	.250	.550	.000

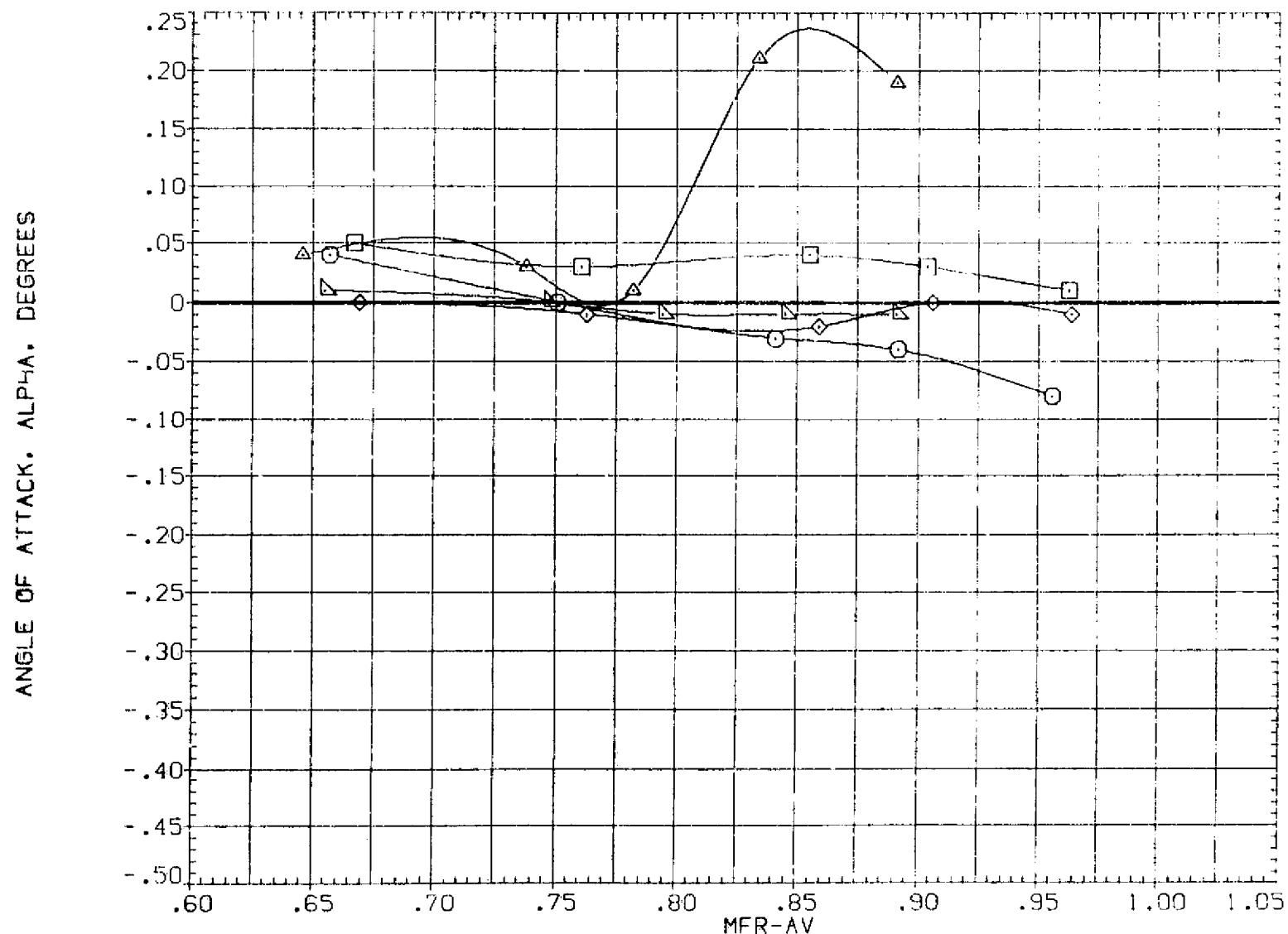


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 135

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAPO22) \circ W B N1 N1
 (BAPO23) DATA NOT AVAILABLE
 (BAPO24) \diamond DATA NOT AVAILABLE
 (BAPO34) Δ DATA NOT AVAILABLE
 (BAPO35) ∇ DATA NOT AVAILABLE

X-1NS0	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

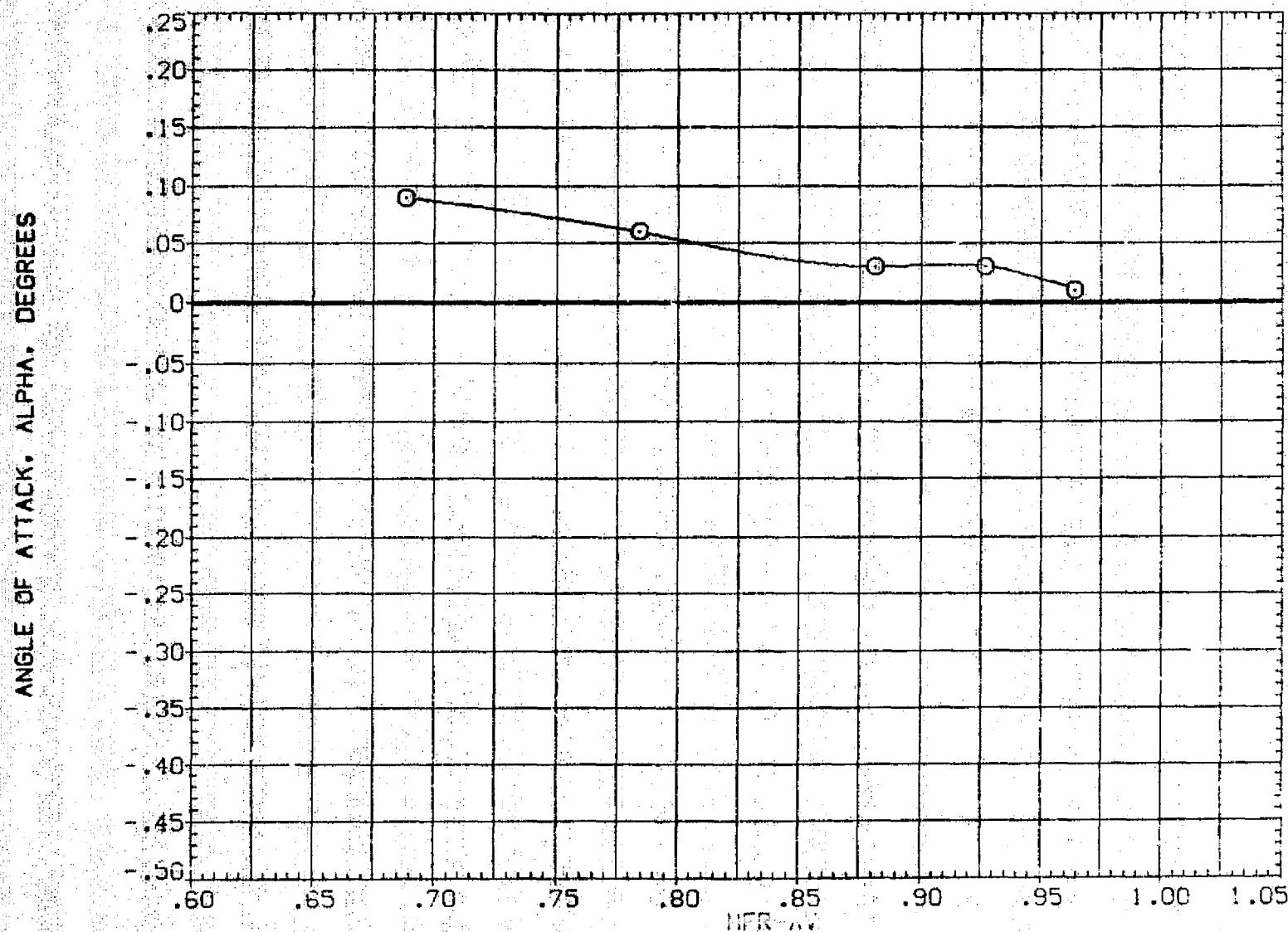


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 136

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP022)	○	V	B	N1	N1
(BAP023)	△	▼	□	N1	N1
(BAP024)	□	○	○	N1	N1
(BAP034)	□	□	□	N2	N2
(BAP035)	□	□	□	N2	N2

X-1IN8D	2Y1/8	2Y8/8	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

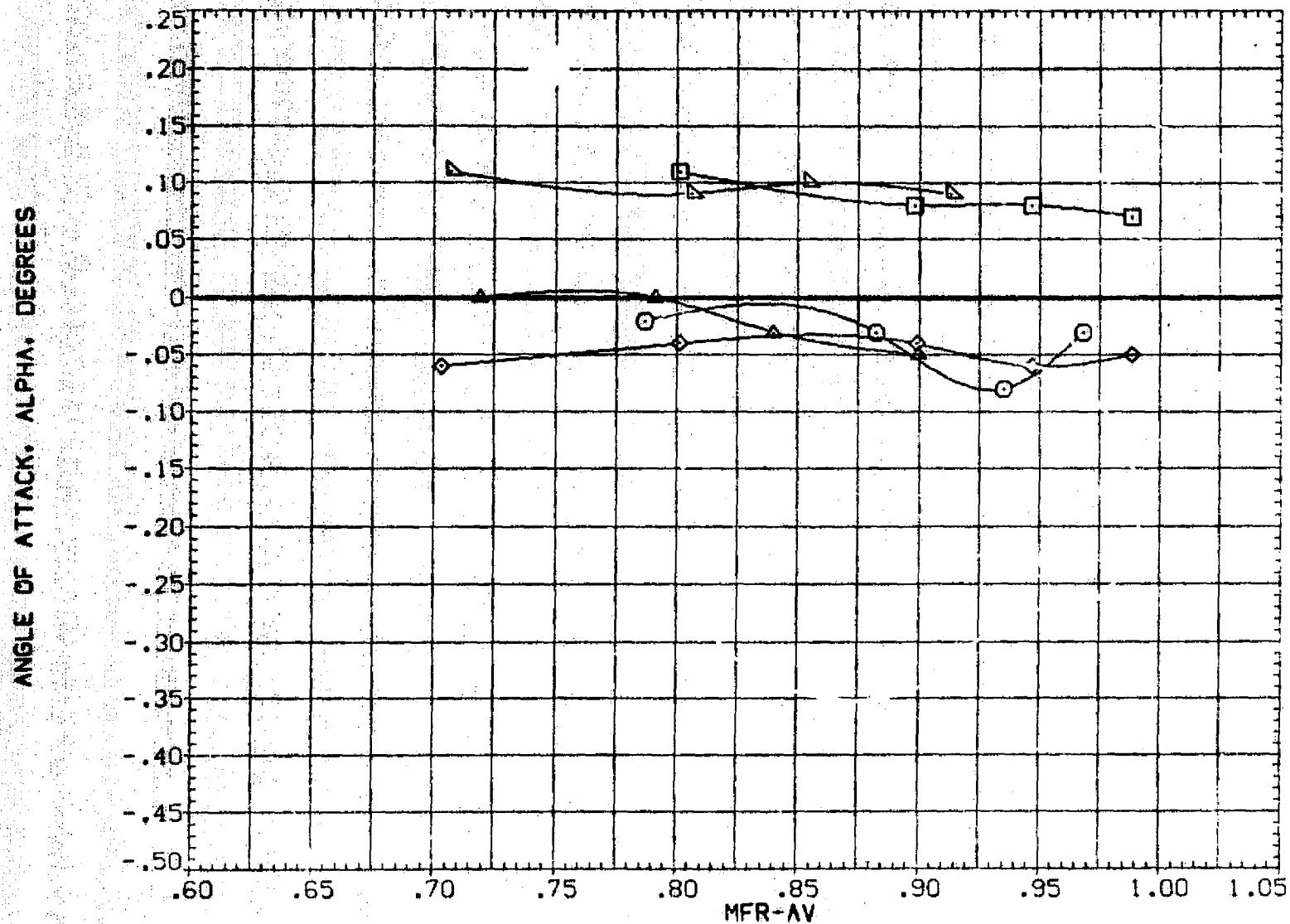


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 137

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(BAP022)	W B N1 N1
(BAP023)	DATA NOT AVAILABLE
(BAP024)	DATA NOT AVAILABLE
(BAP034)	DATA NOT AVAILABLE
(BAP035)	DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y6/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.200
48,000	.250	.550	.170

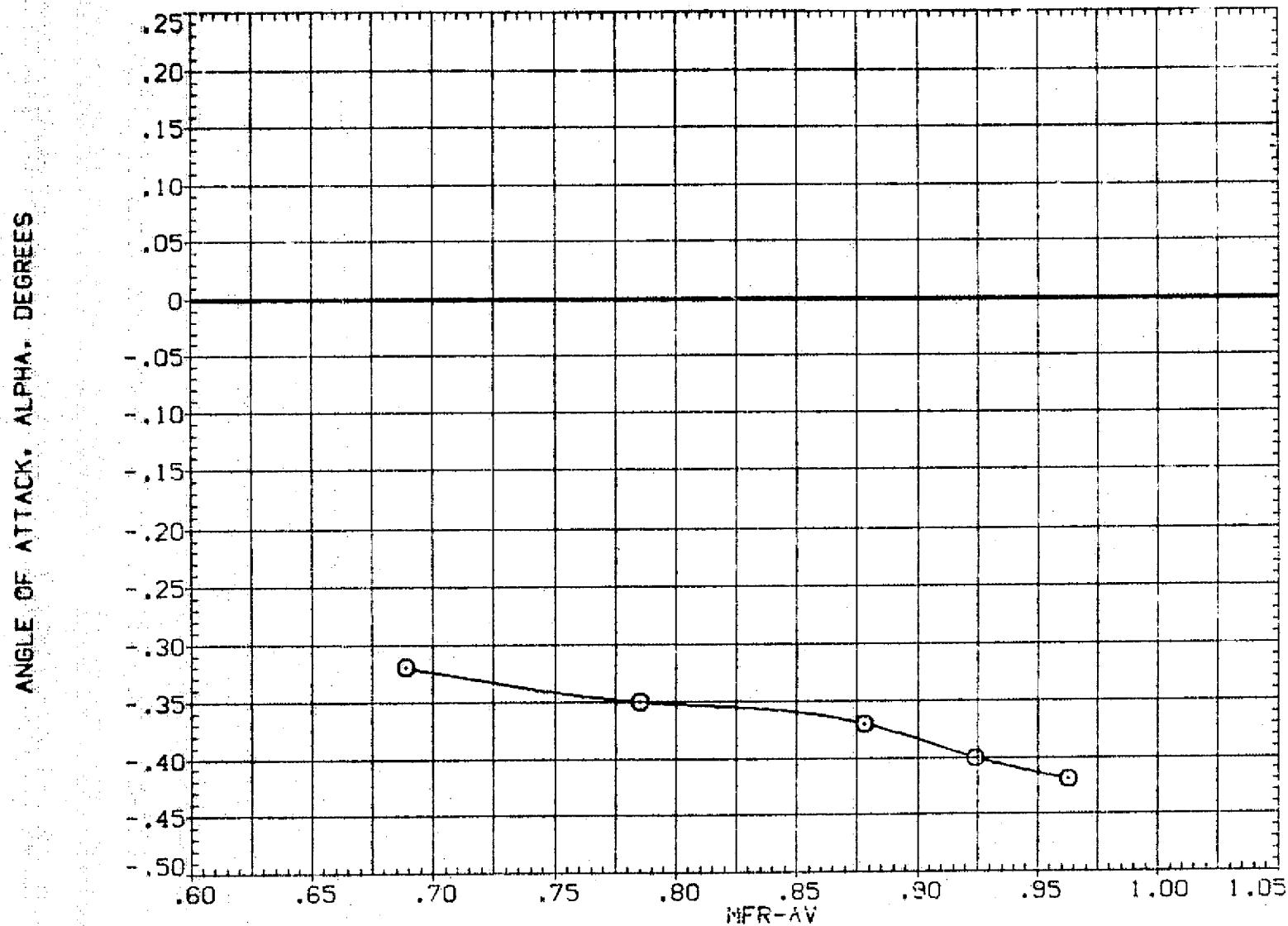


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.20

DATA SET 5 (MACH 1.30)
 1 BAP0221 DATA NOT AVAILABLE
 1 BAP0231 DATA NOT AVAILABLE
 1 BAP0241 DATA NOT AVAILABLE
 1 BAP0251 DATA NOT AVAILABLE

	X-INCH	2Y1/B	2Y0/B	0X
1 BAP0221	56.000	.250	.550	.000
1 BAP0231	48.000	.250	.540	.000
1 BAP0241	40.000	.250	.550	.000
1 BAP0251	56.000	.250	.550	.000
	48.000	.250	.550	.000

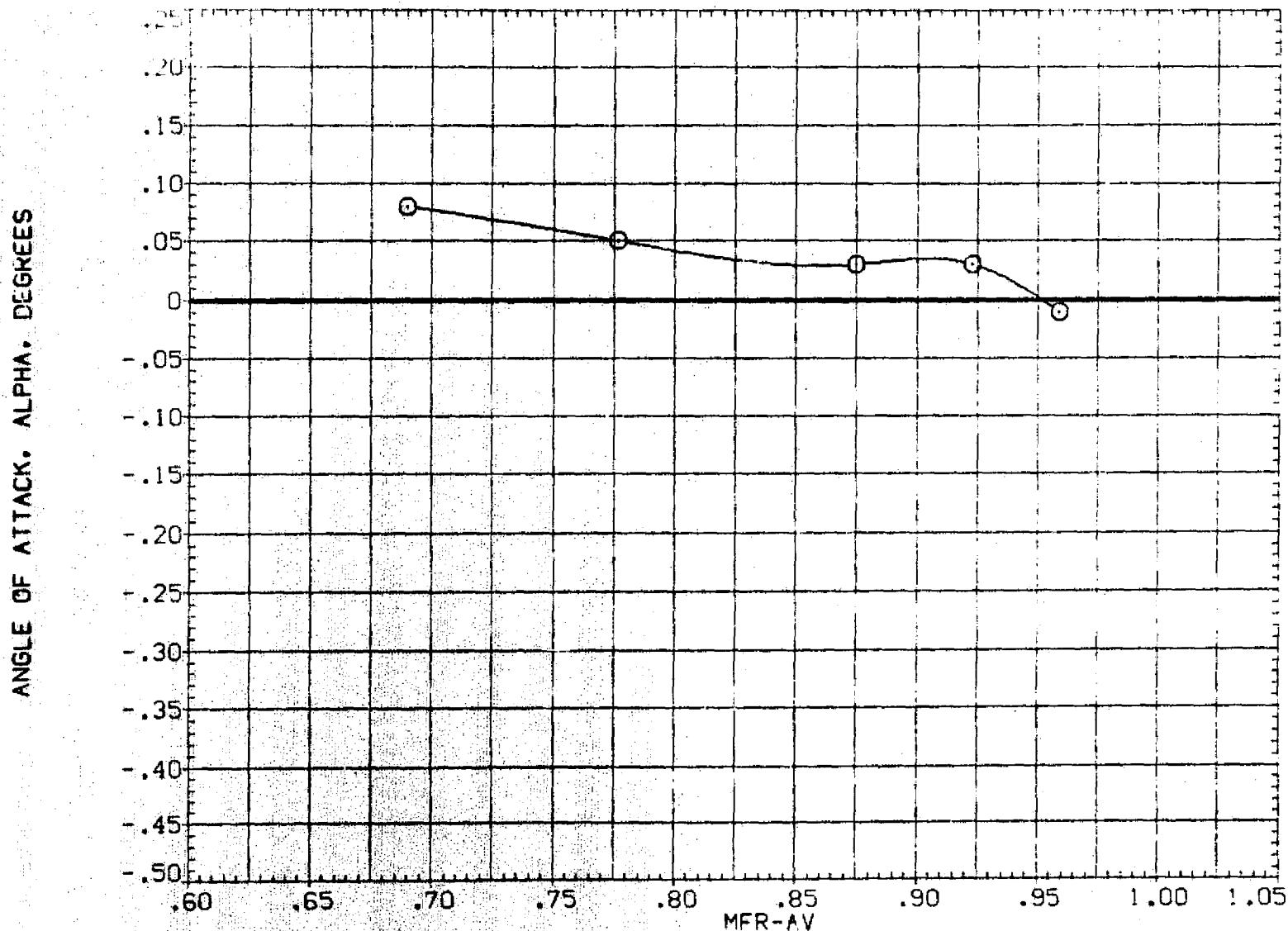


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 139

DATA SET SYMBOL CONFIGURATION DESCRIPTION

BAP022	W B N1 N1
BAP023	W B N1 N1
BAP041	W B N1 N1
BAP034	W B N2 N2
BAP035	W B N2 N2

X-1NBD	2Y1NBD	2Y2NBD	1Y
56,000	.250	.1641	.200
48,000	.250	.1706	.200
40,000	.250	.1802	.200
56,000	.250	.1563	.200
48,000	.250	.1560	.200

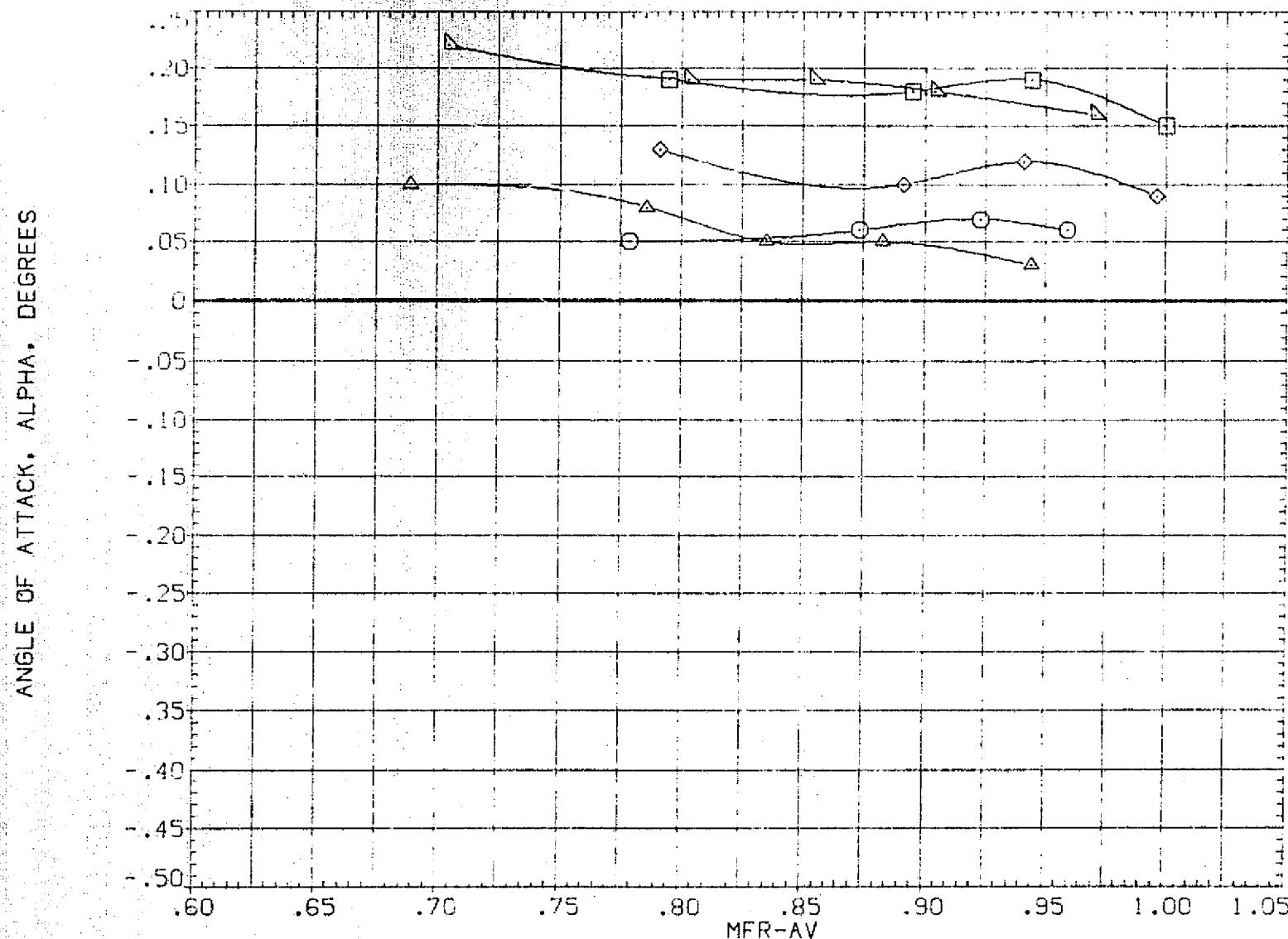


FIG. 12 EFFECTS OF MASS FLOW RATIO ON NACELLE AND WING BODY FORCES.

(GOMACH = 1.40

PAGE 140

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	W B N1 N1
(RAP026)	DATA NOT AVAILABLE
(RAP027)	DATA NOT AVAILABLE
(RAP036)	DATA NOT AVAILABLE
(RAP037)	DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

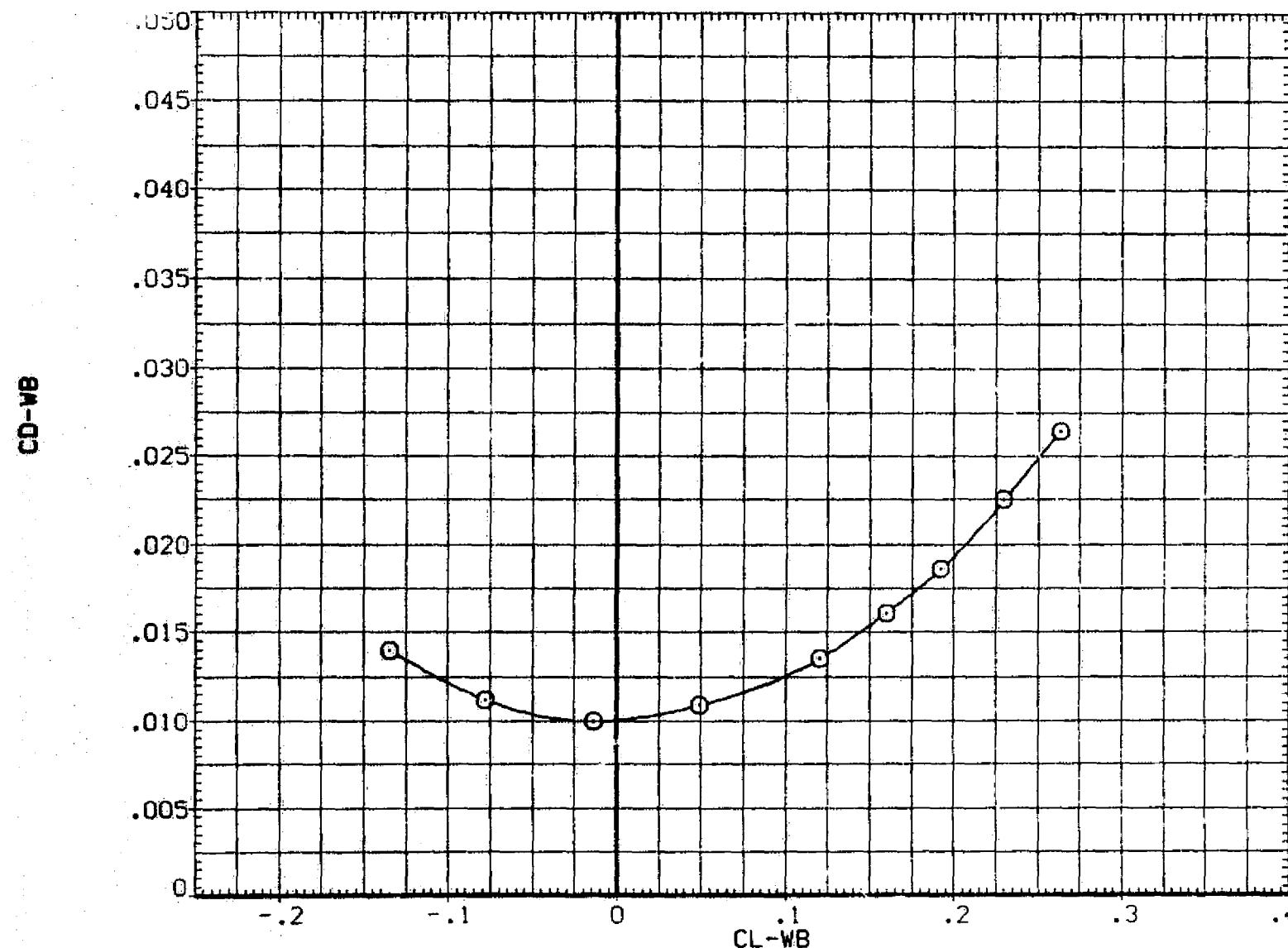


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 141

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	W B N1 N1
(RAP026)	W B N1 N1
(RAP027)	X B N1 N1
(RAP036)	W B N2 N2
(RAP037)	W B N2 N2

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

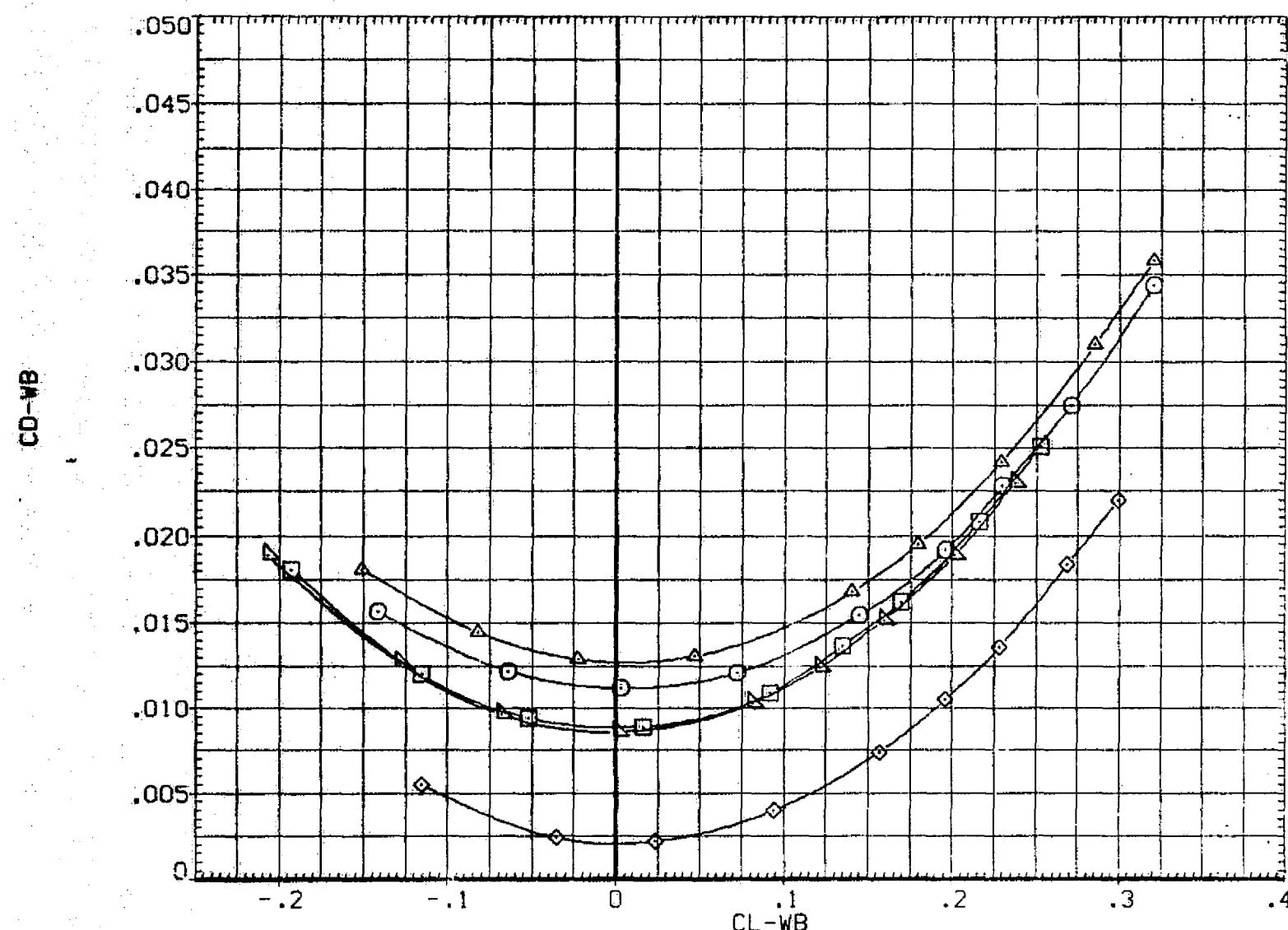


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

OBMACH = .98

PAGE : 142

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	X-INBD	2Y1/B	2Y0/B	DX
(ZAP025)	W B N1 N1	56.000	.250	.550	.000
(RAP026)	DATA NOT AVAILABLE	48.000	.250	.550	.000
(RAP027)	DATA NOT AVAILABLE	40.000	.250	.550	.000
(RAP036)	DATA NOT AVAILABLE	56.000	.250	.550	.000
(RAP037)	DATA NOT AVAILABLE	48.000	.250	.550	.000

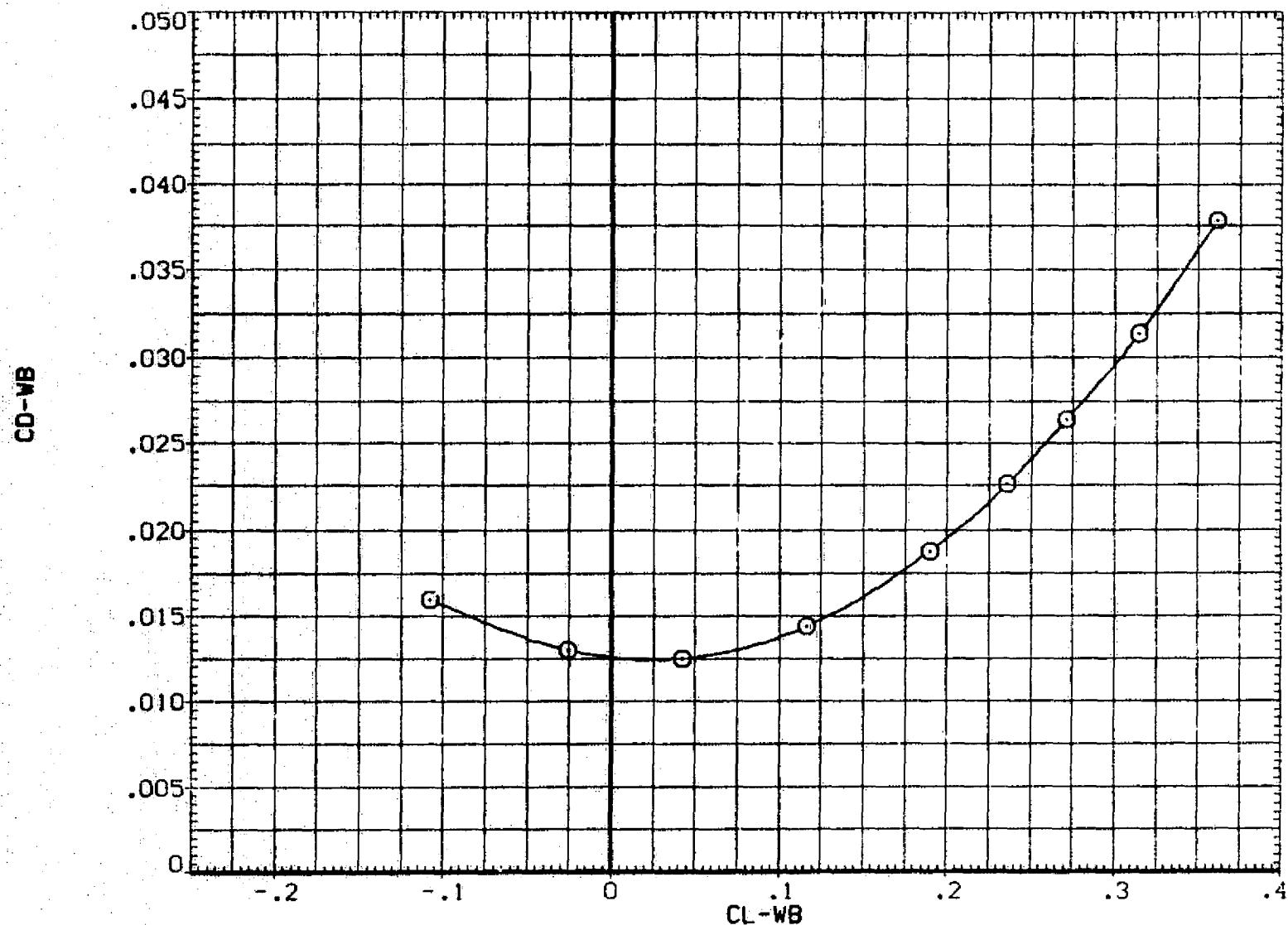


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(COMACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	W B N1 N1
(RAP026)	W B N1 N1
(RAP027)	W B N1 N1
(RAP036)	W B N2 N2
(RAP037)	W B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

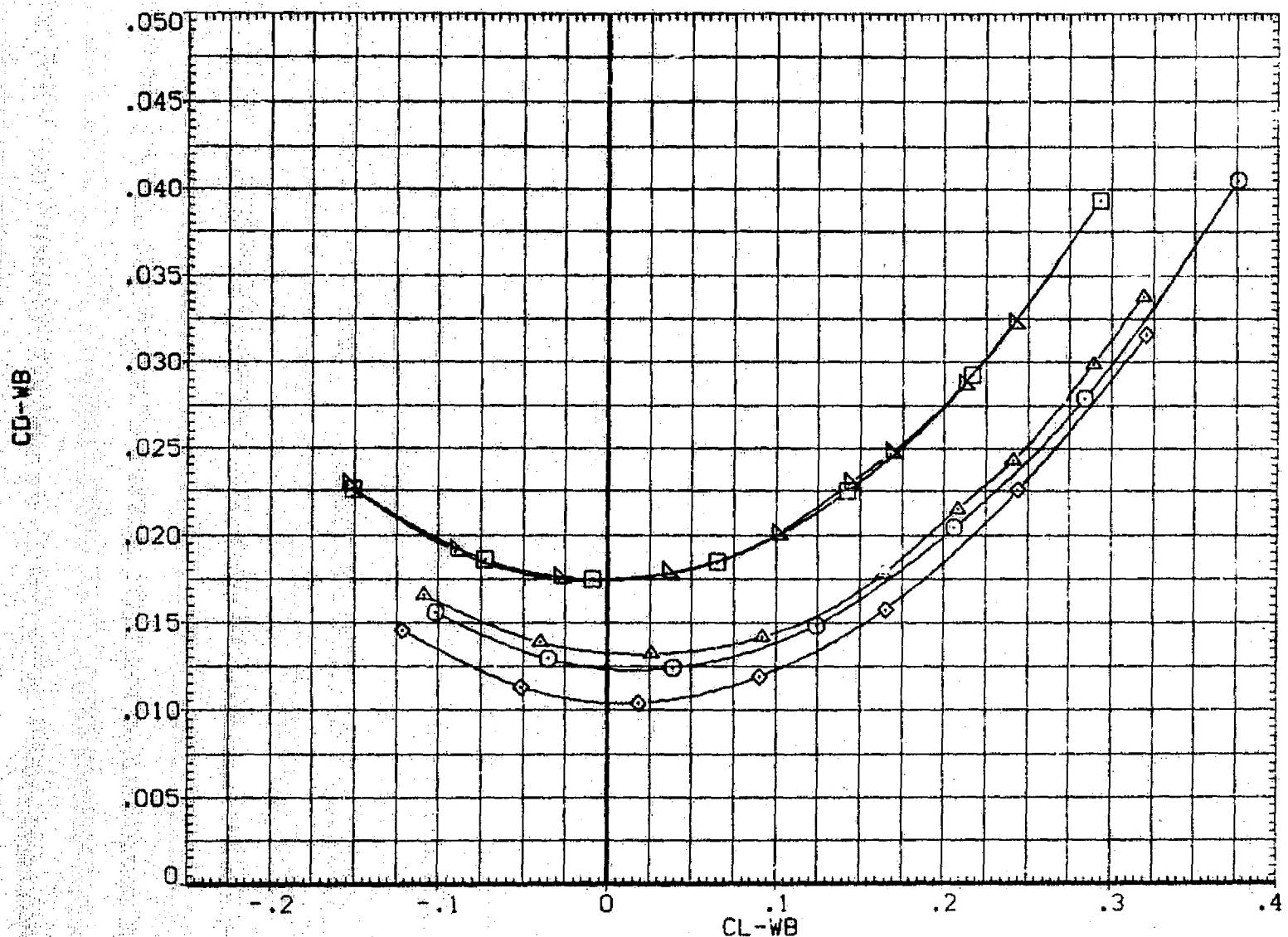


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CDMACH = 1.15

PAGE 144

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) O V, 6, NI, NI
 (ZAP026) □ DATA NOT AVAILABLE
 (ZAP027) □ DATA NOT AVAILABLE
 (ZAP036) □ DATA NOT AVAILABLE
 (ZAP037) □ DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

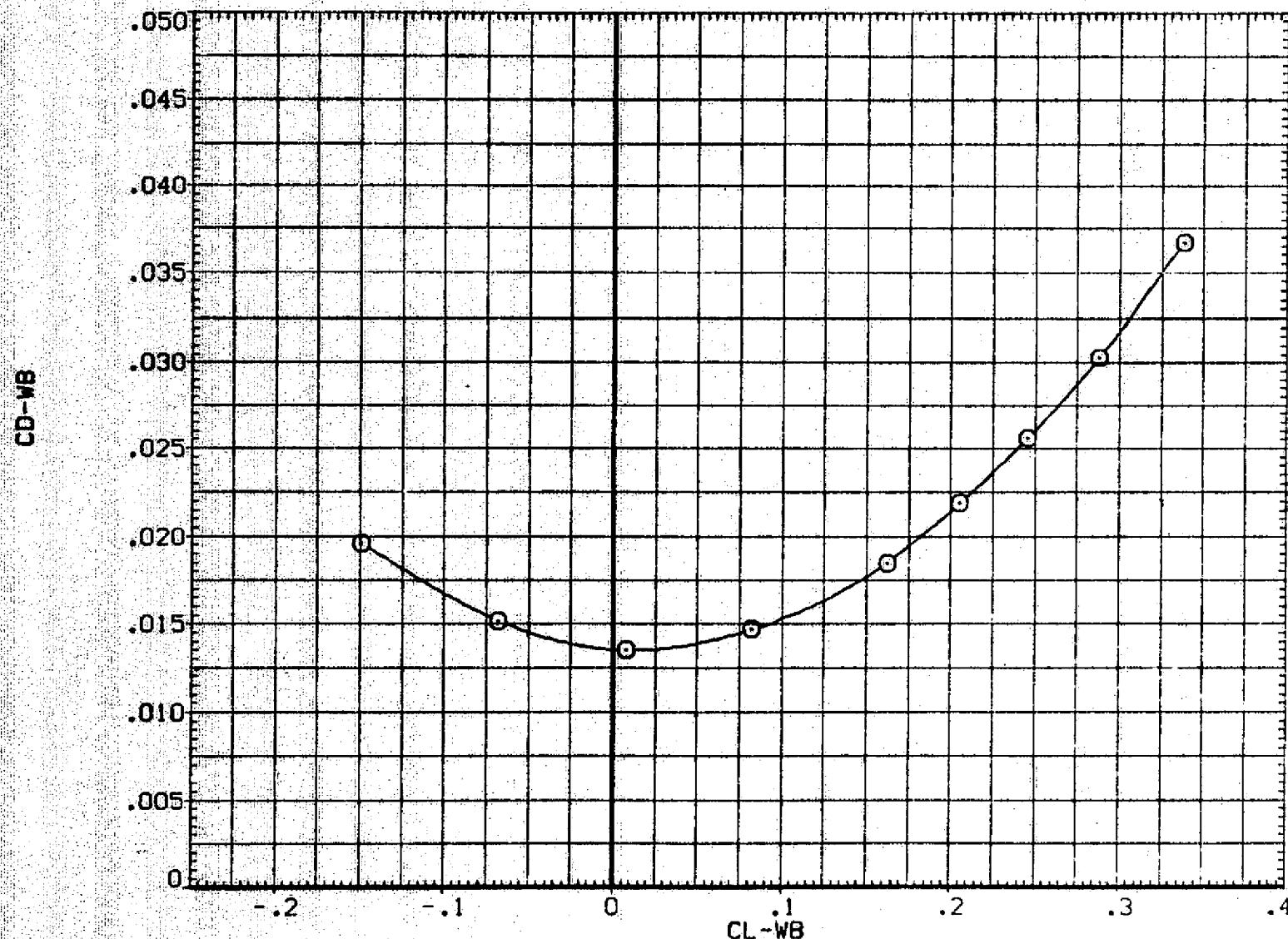


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CE MACH = 1.1

PAGE 145

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	W B N1 N1
(RAP026)	DATA NOT AVAILABLE
(RAP027)	DATA NOT AVAILABLE
(RAP036)	DATA NOT AVAILABLE
(RAP037)	DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

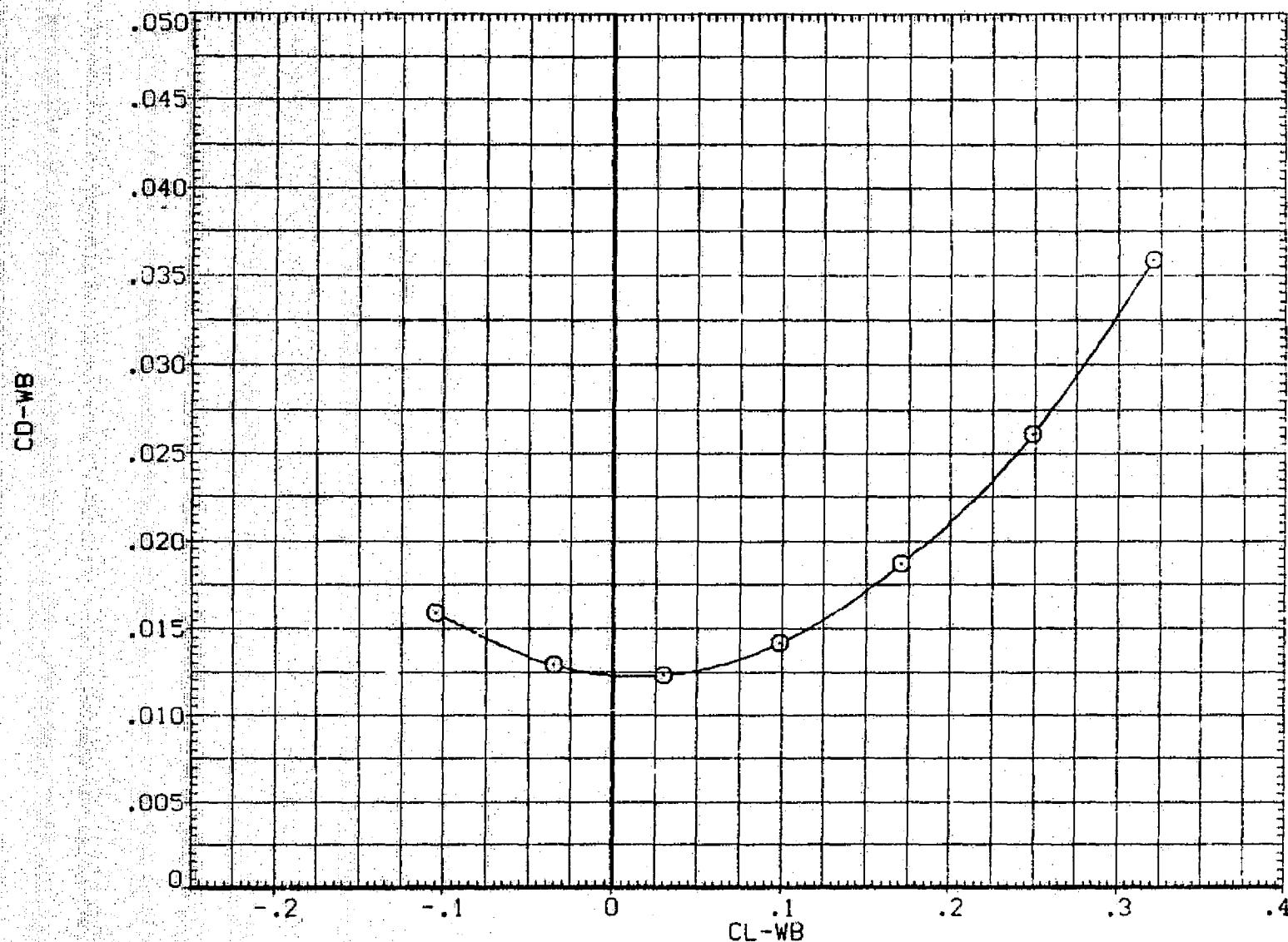


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 146

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	▀ B NI NI
(RAP026)	□ B NI NI
(RAP027)	◇ B NI NI
(RAP036)	▼ B N2 N2
(RAP037)	△ B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

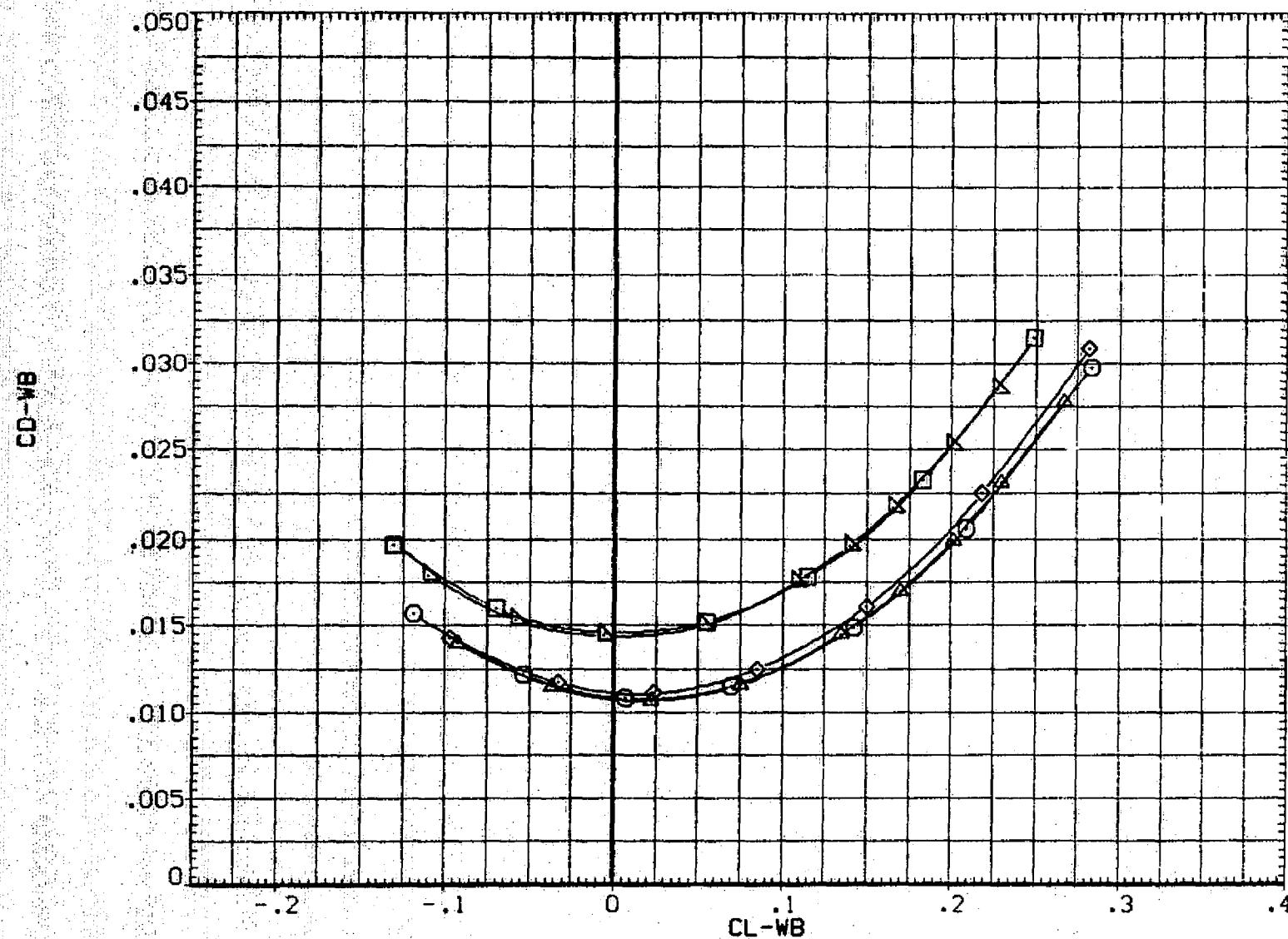


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 147

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(RAP026)	□	DATA NOT AVAILABLE
(RAP027)	◇	DATA NOT AVAILABLE
(RAP036)	×	DATA NOT AVAILABLE
(RAP037)	△	DATA NOT AVAILABLE

X-1N80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

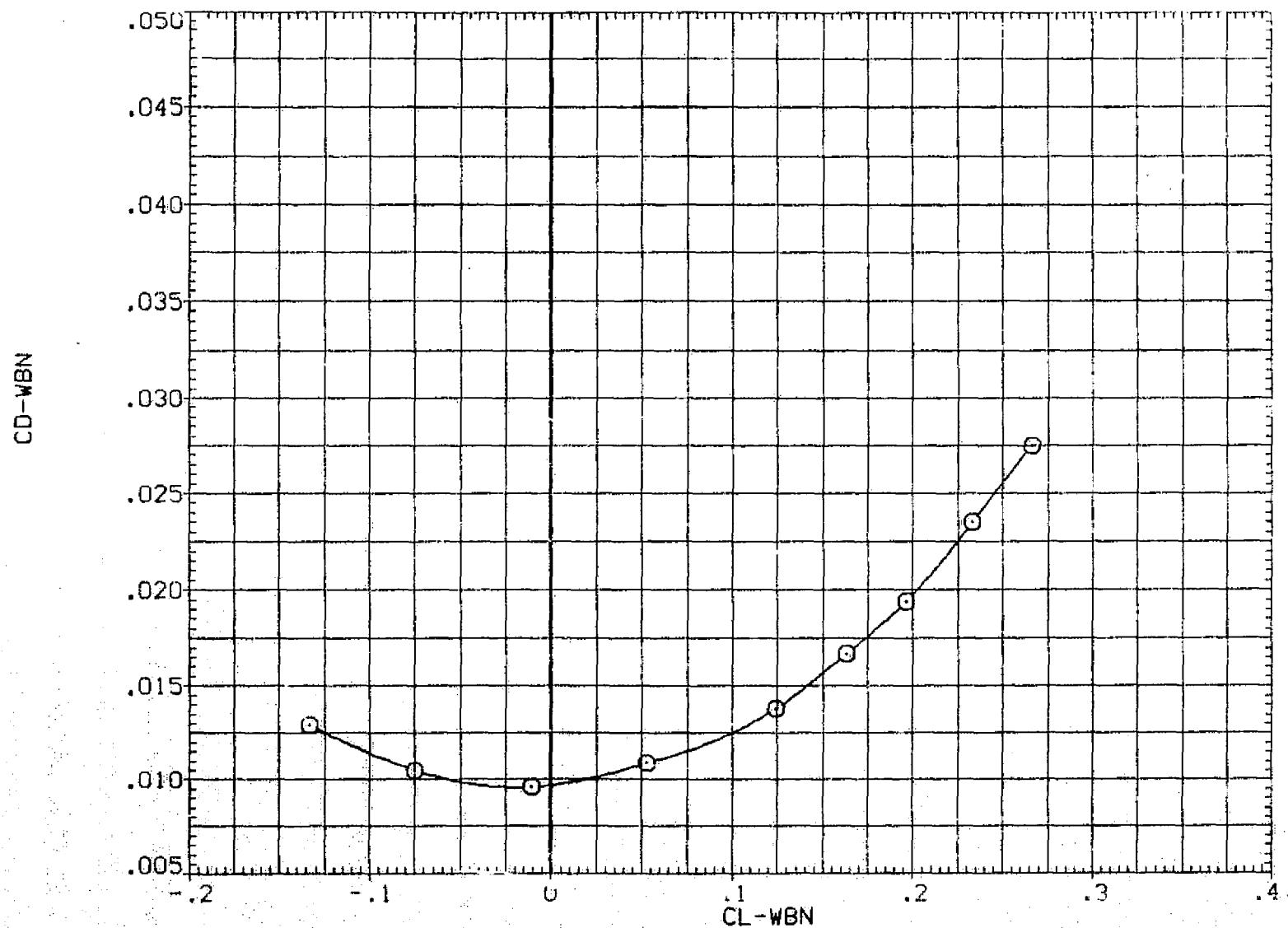


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 148

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(RAP026)	□	W B N1 N1
(RAP027)	△	W B N1 N1
(RAP036)	○	W B N2 N2
(RAP037)	△	W B N2 N2

X-INBD	2Y1/B	2Y0/B	UX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

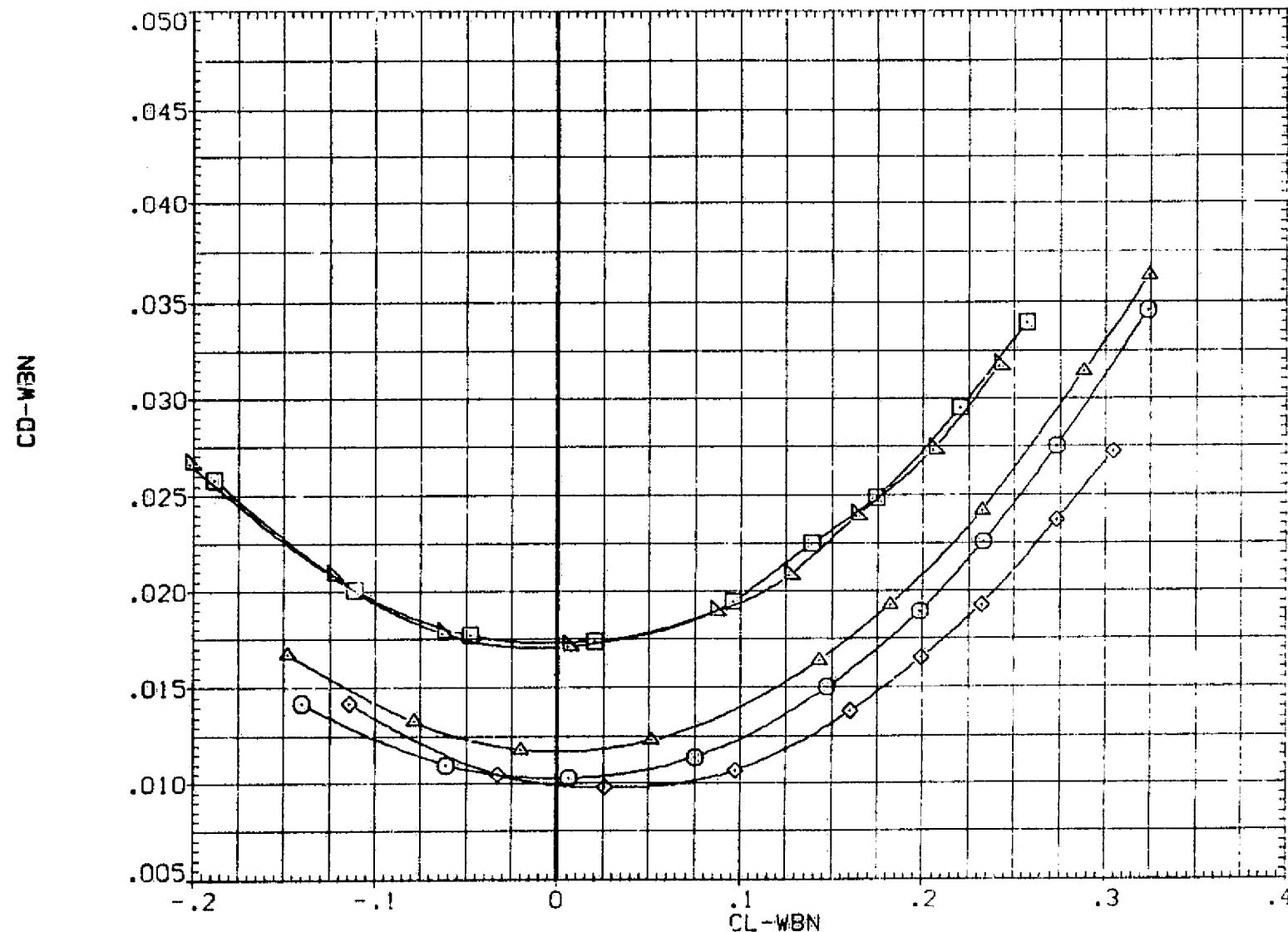


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 149

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) \circ * B NI NI
 (RAP026) \square DATA NOT AVAILABLE
 (RAP027) \times DATA NOT AVAILABLE
 (RAP036) \times DATA NOT AVAILABLE
 (RAP037) Δ DATA NOT AVAILABLE

X-INB	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

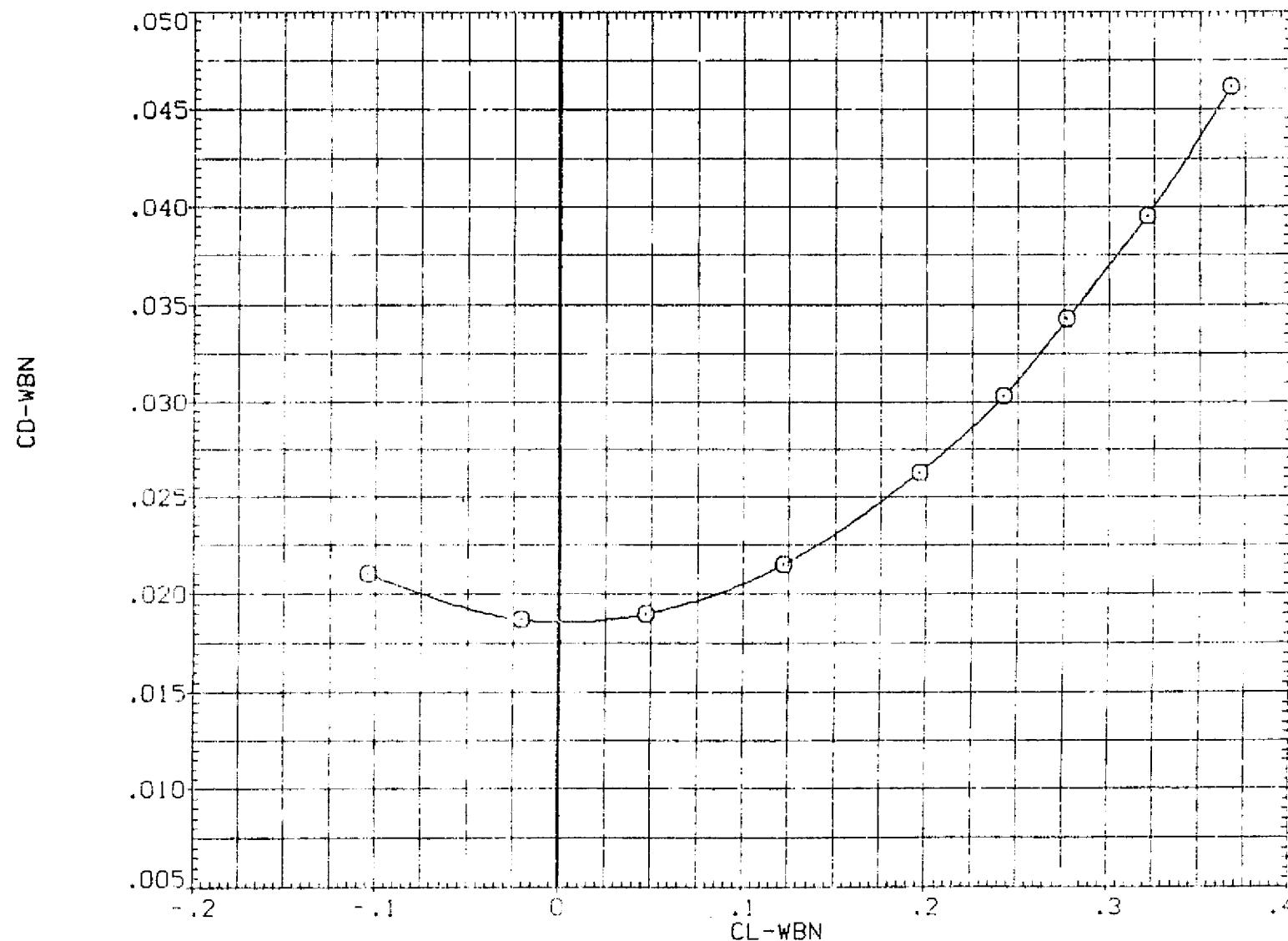


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(COMACH = 1.10

PAGE 150

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	B N1 N1
(RAP026)	▽	B N1 N1
(RAP027)	×	B N1 N1
(RAP036)	△	B N2 N2
(RAP037)	△	B N2 N2

X-IN80	2Y1/B	2Y0/B	0x
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

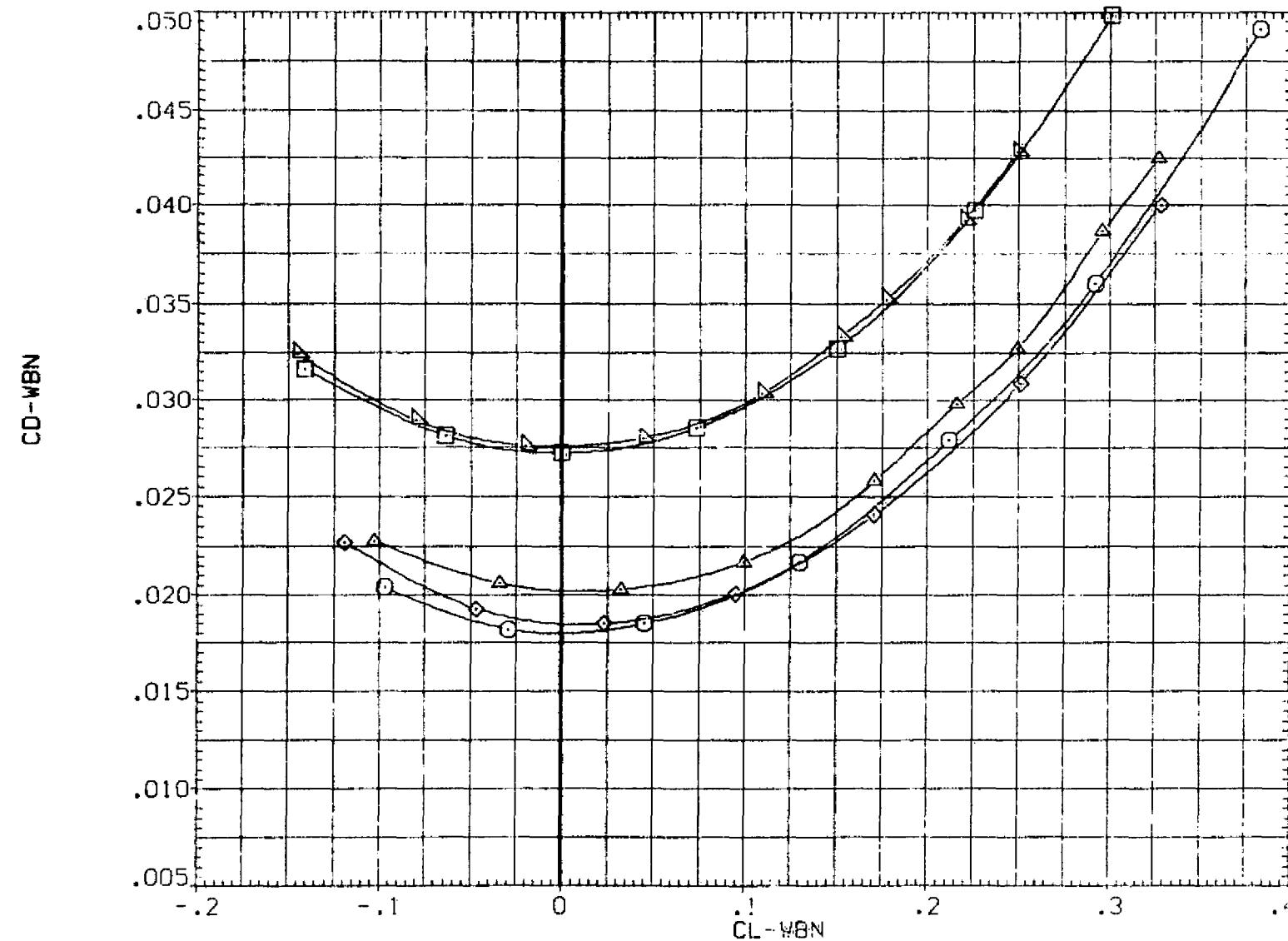


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 151

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) \square W B N1 N1
 (RAP026) \square DATA NOT AVAILABLE
 (RAP027) \times DATA NOT AVAILABLE
 (RAP036) \square DATA NOT AVAILABLE
 (RAP037) \square DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.150	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

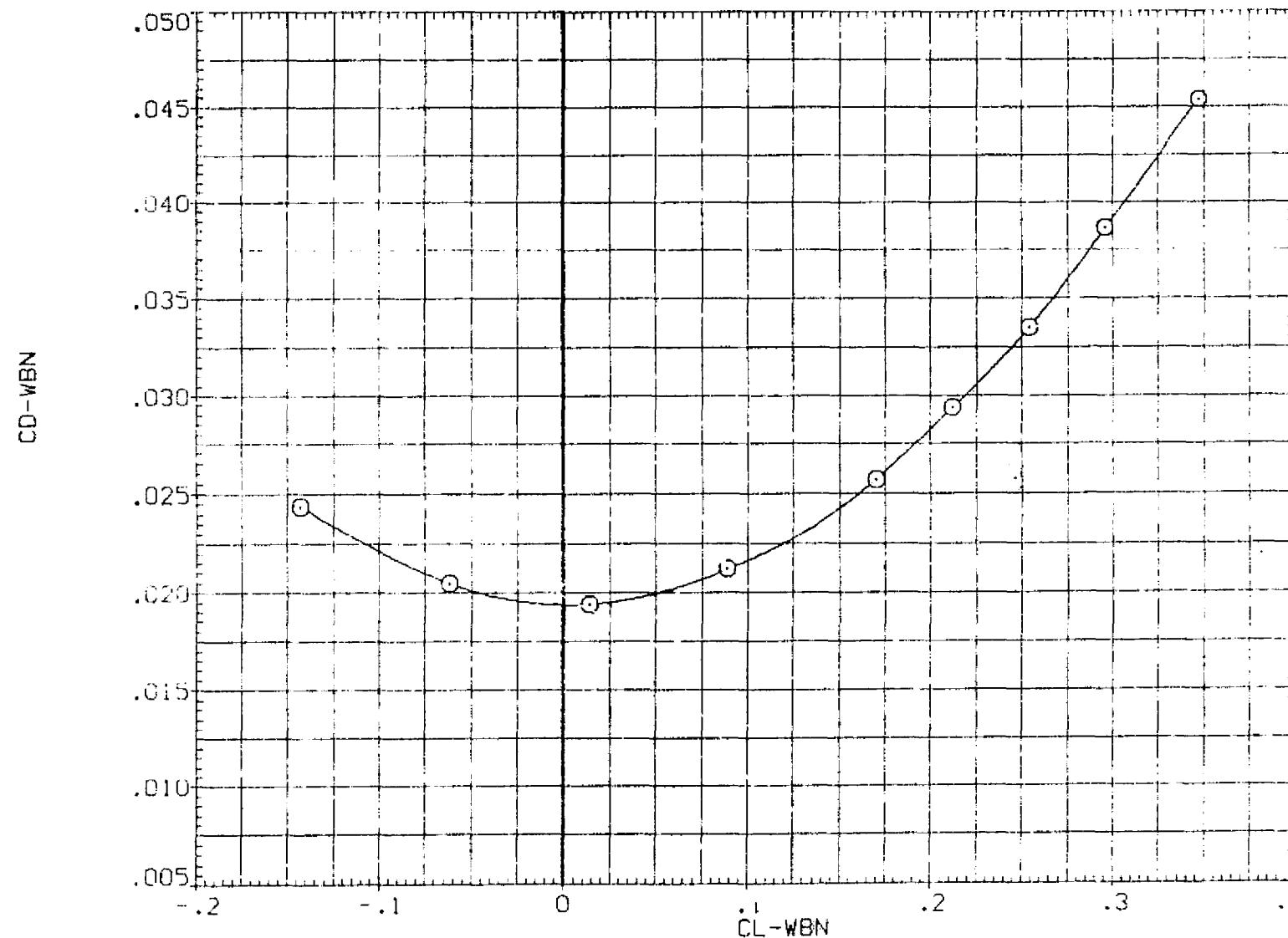


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 152

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)  V B N1 N1
 (RAP026)  DATA NOT AVAILABLE
 (RAP027)  DATA NOT AVAILABLE
 (RAP036)  DATA NOT AVAILABLE
 (RAP037)  DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	BX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

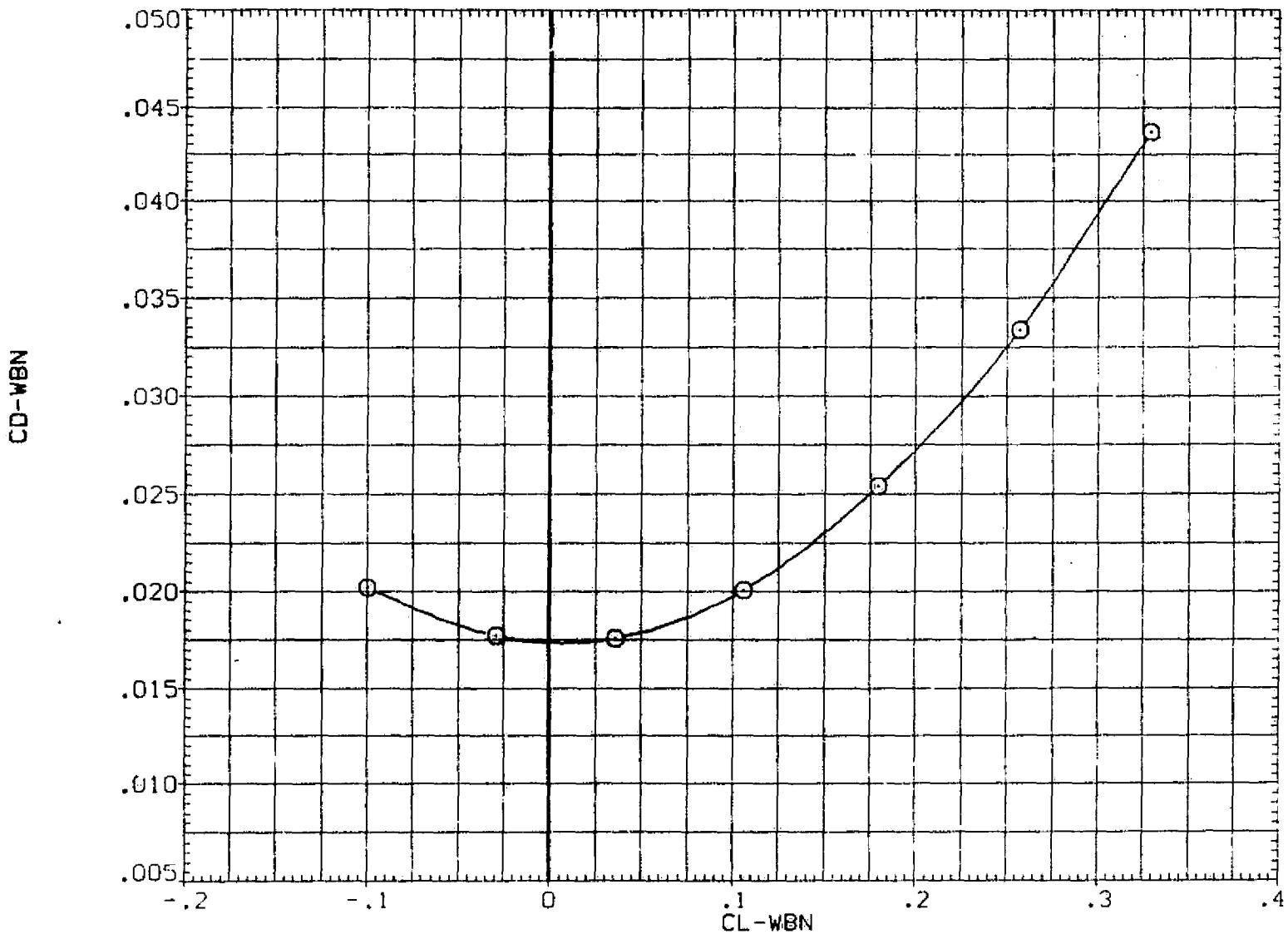


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 153

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	▼ B	NI	NI
(RAP026)	□	▼ B	NI	NI
(RAP027)	×	▼ B	NI	NI
(RAP036)	△	▼ B	N2	N2
(RAP037)	×	▼ B	N2	N2

	X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000	
48.000	.250	.550	.000	
40.000	.250	.550	.000	
56.000	.250	.550	.000	
48.000	.250	.550	.000	

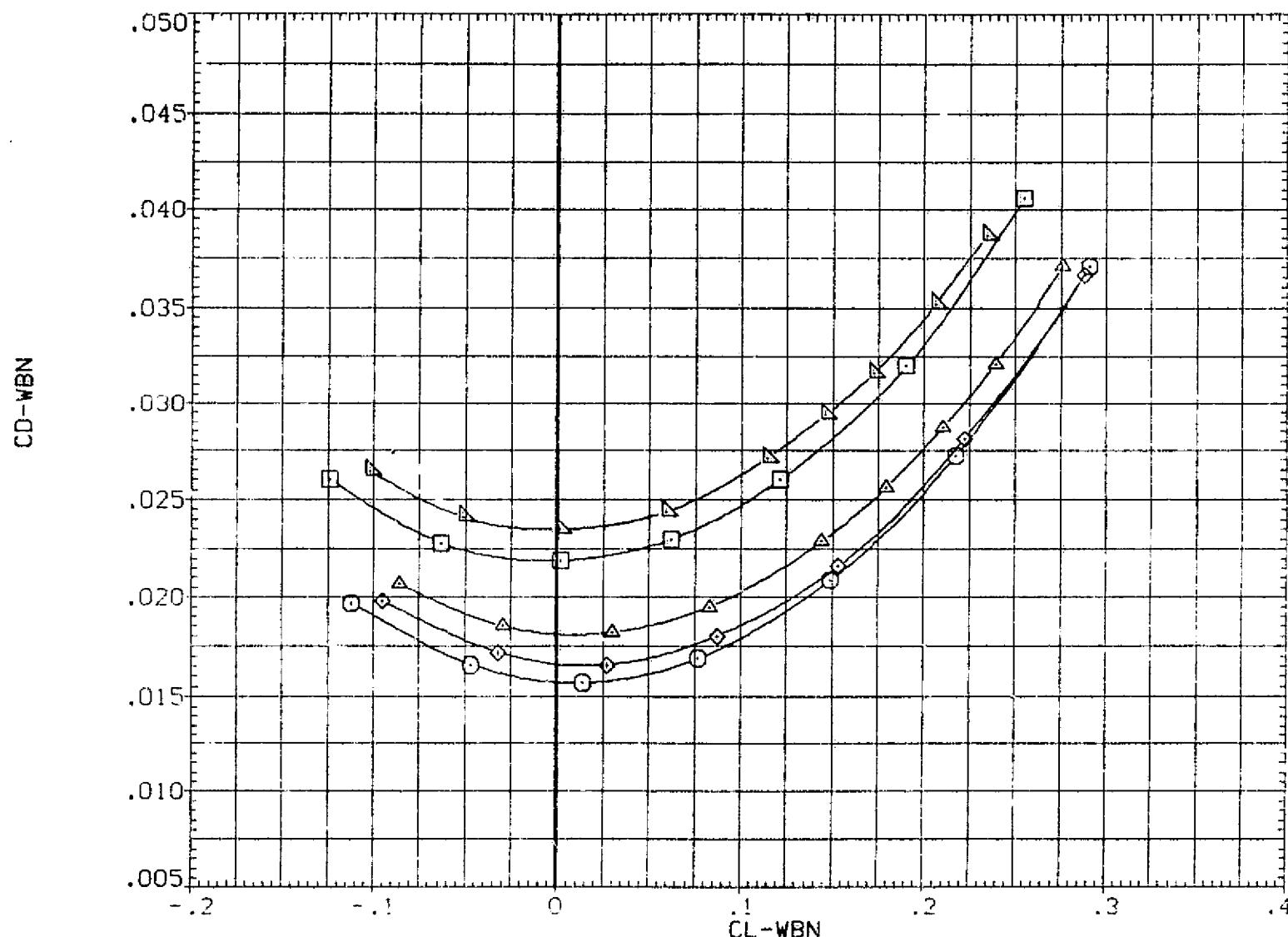


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(GOMACH = 1.40)

PAGE 154

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	W B N1 N1
(RAP026)	DATA NOT AVAILABLE
(RAP027)	DATA NOT AVAILABLE
(RAP036)	DATA NOT AVAILABLE
(RAP037)	DATA NOT AVAILABLE

X- INCH	2Y1/B	2Y0/B	0x
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

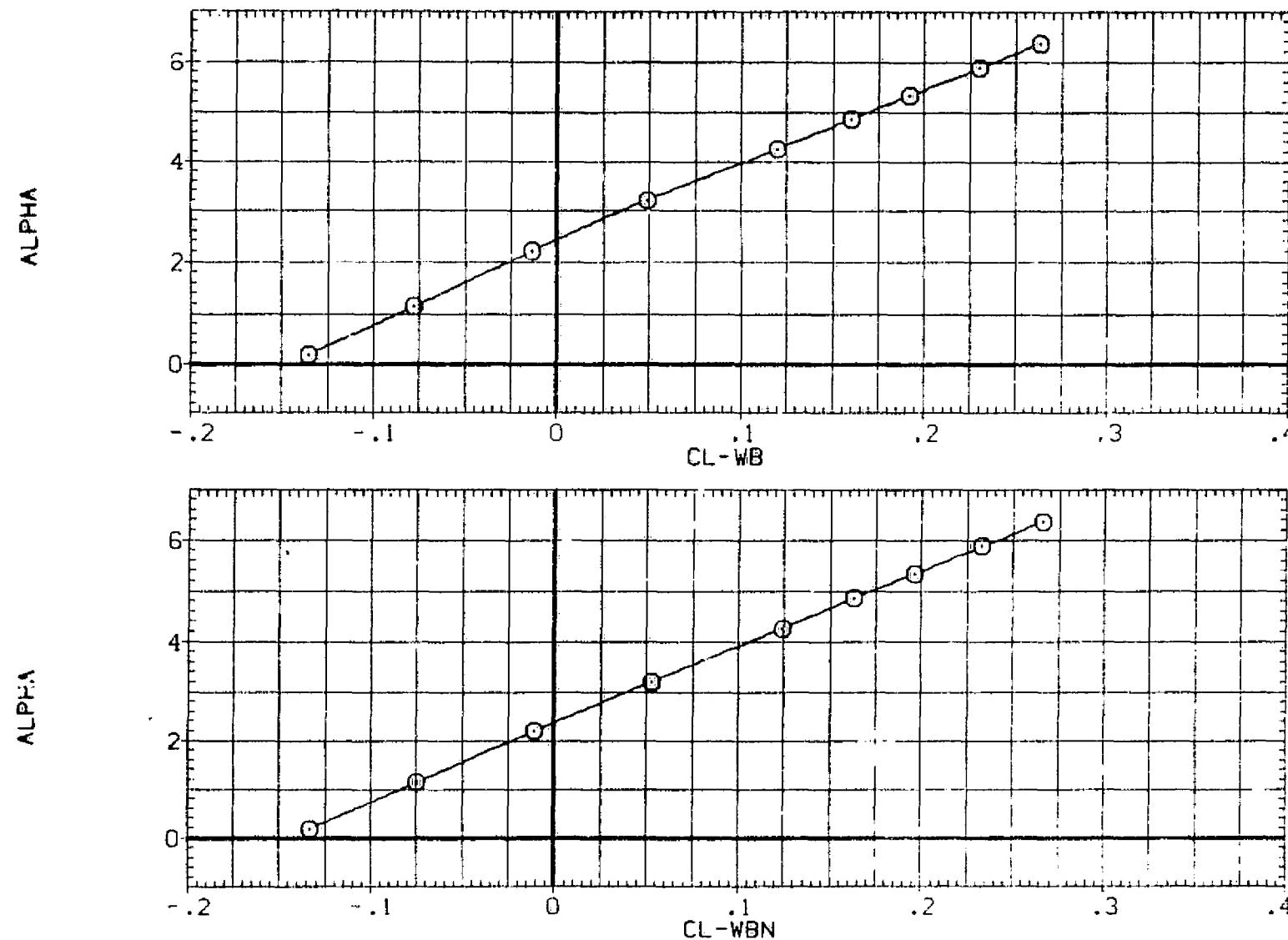


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(A)MACH = .90

PAGE 155

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION
URAP026	+	W B N1 N1
URAP026	+	W B N1 N1
URAP027	+	W B N1 N1
URAP028	+	W B N2 N2
URAP028	+	W B N2 N2

X-IND	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

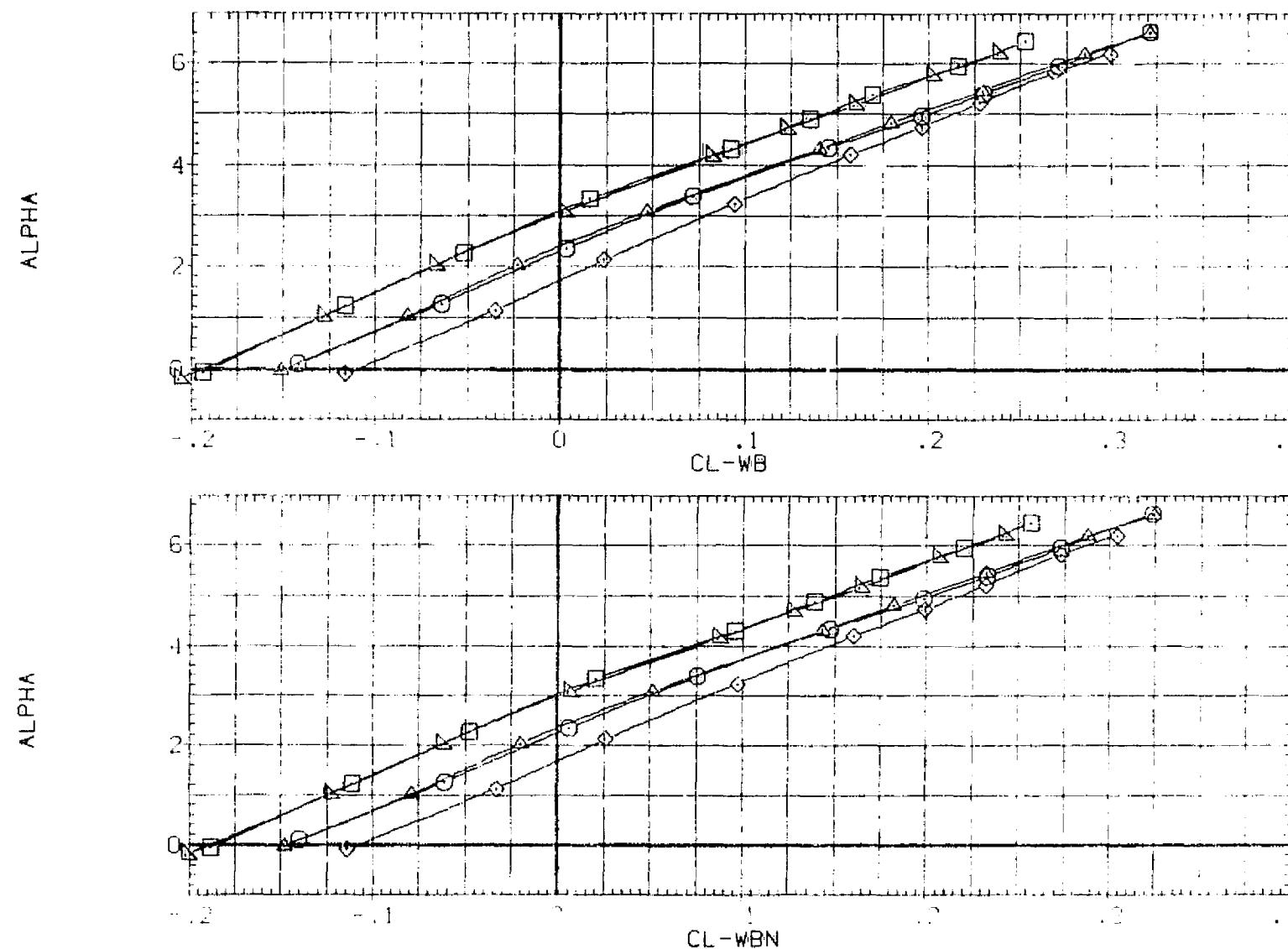


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 156

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP025) \circ B N1 N1
 (RAP026) \square DATA NOT AVAILABLE
 (RAP027) \times DATA NOT AVAILABLE
 (RAP036) \triangle DATA NOT AVAILABLE
 (RAP037) ∇ DATA NOT AVAILABLE

X-INBD	2Y1/8	2Y0/8	0x
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

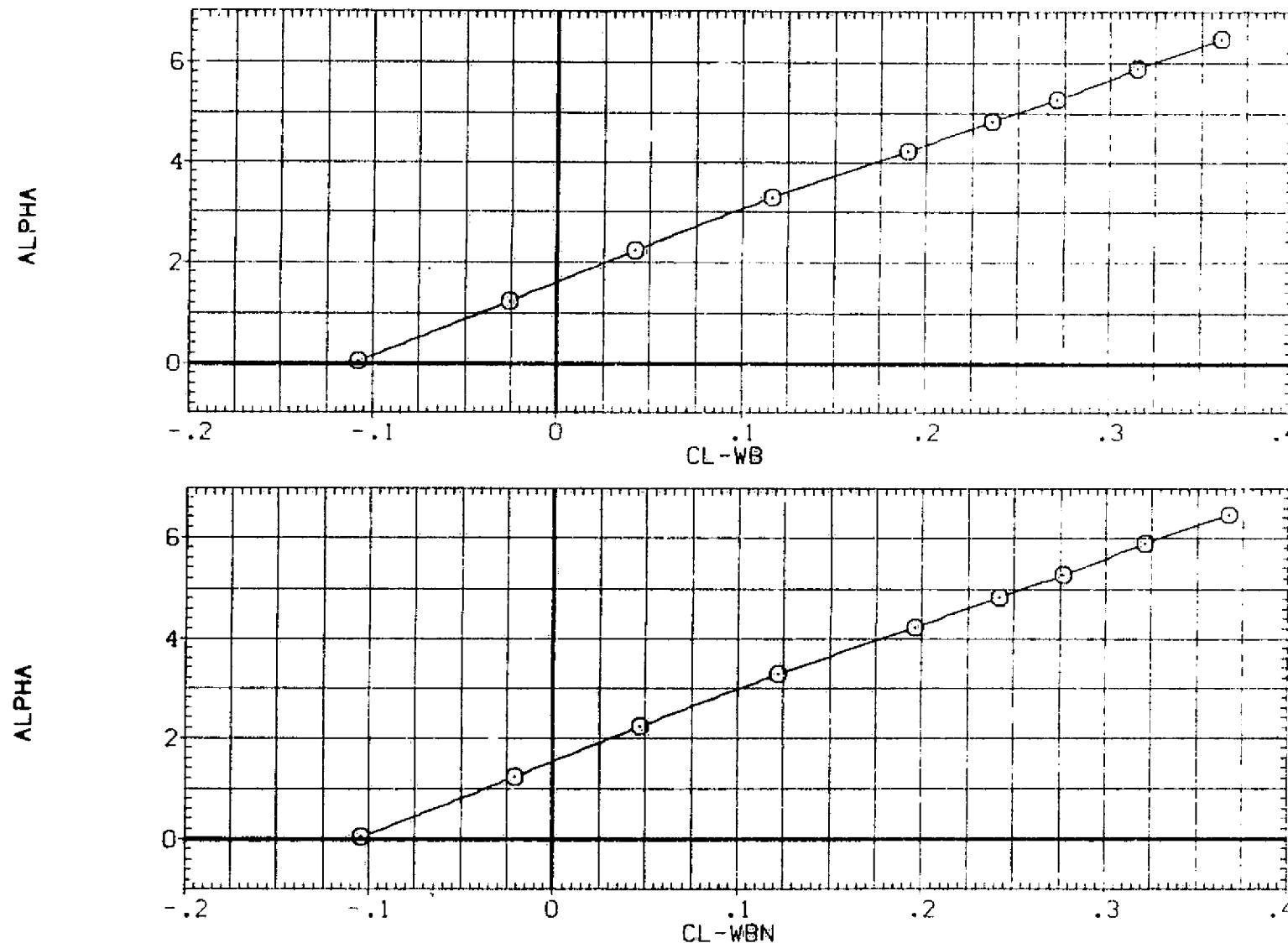


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 157

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP025) v B N1 N1
 (ZAP026) v B N1 N1
 (ZAP027) v B N1 N1
 (ZAP036) v B N2 N2
 (ZAP037) v B N2 N2

X-INBO 2Y1/B 2Y0/B DX
 56.000 .250 .550 .000
 48.000 .250 .550 .000
 40.000 .250 .550 .000
 56.000 .250 .550 .000
 48.000 .250 .550 .000

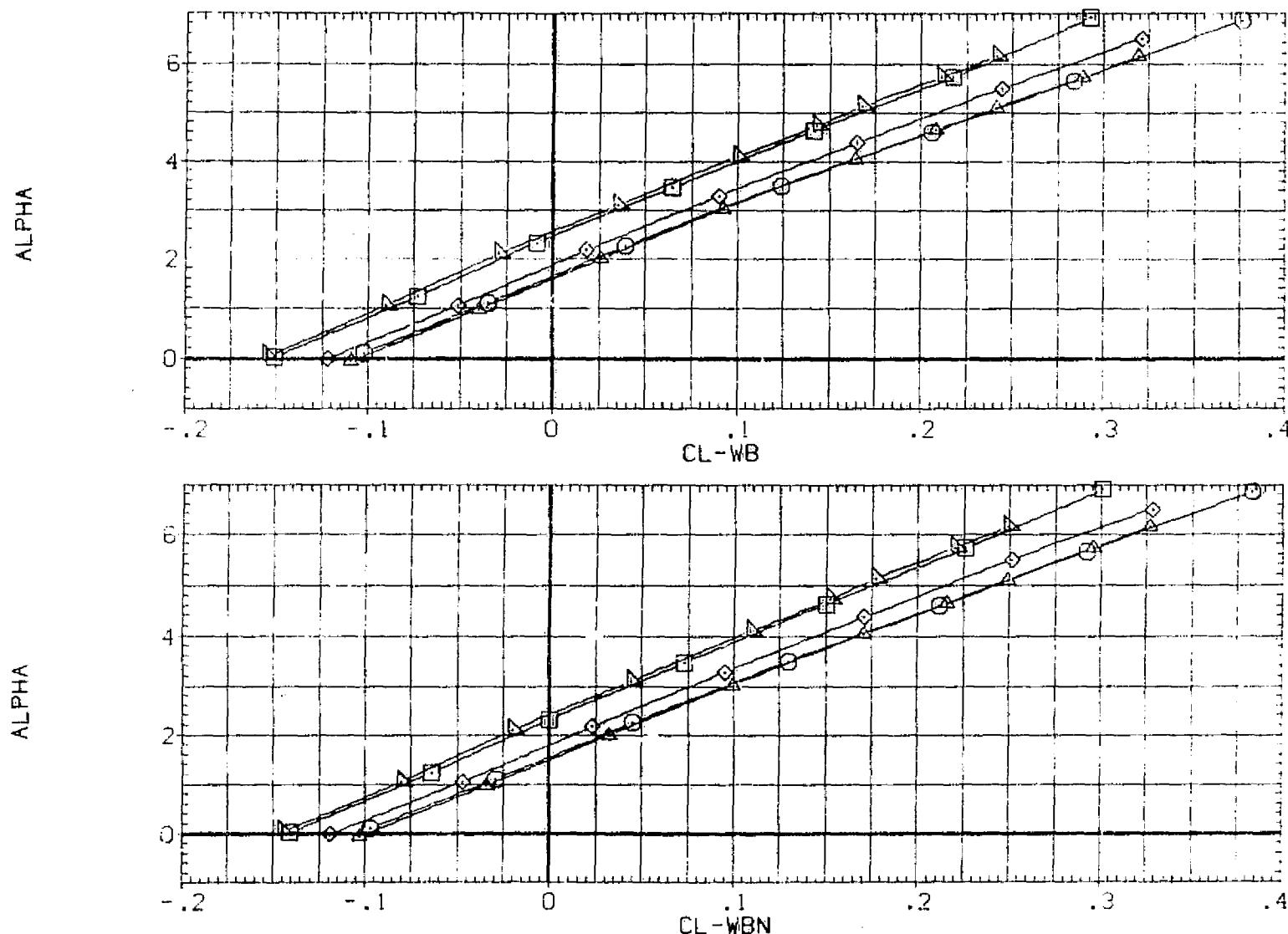


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15

PAGE 158

DATA SET SYMBOL CONFIGURATION/SECTION
 (ZAP025) W B N1 N1
 (RAP026) DATA NOT AVAILABLE
 (RAP027) DATA NOT AVAILABLE
 (RAP036) DATA NOT AVAILABLE
 (RAP037) DATA NOT AVAILABLE

X-IMBD 2Y1/B 2Y0/B DX
 56,000 .250 .550 .000
 48,000 .250 .550 .000
 40,000 .250 .550 .000
 56,000 .250 .500 .000
 48,000 .250 .500 .000

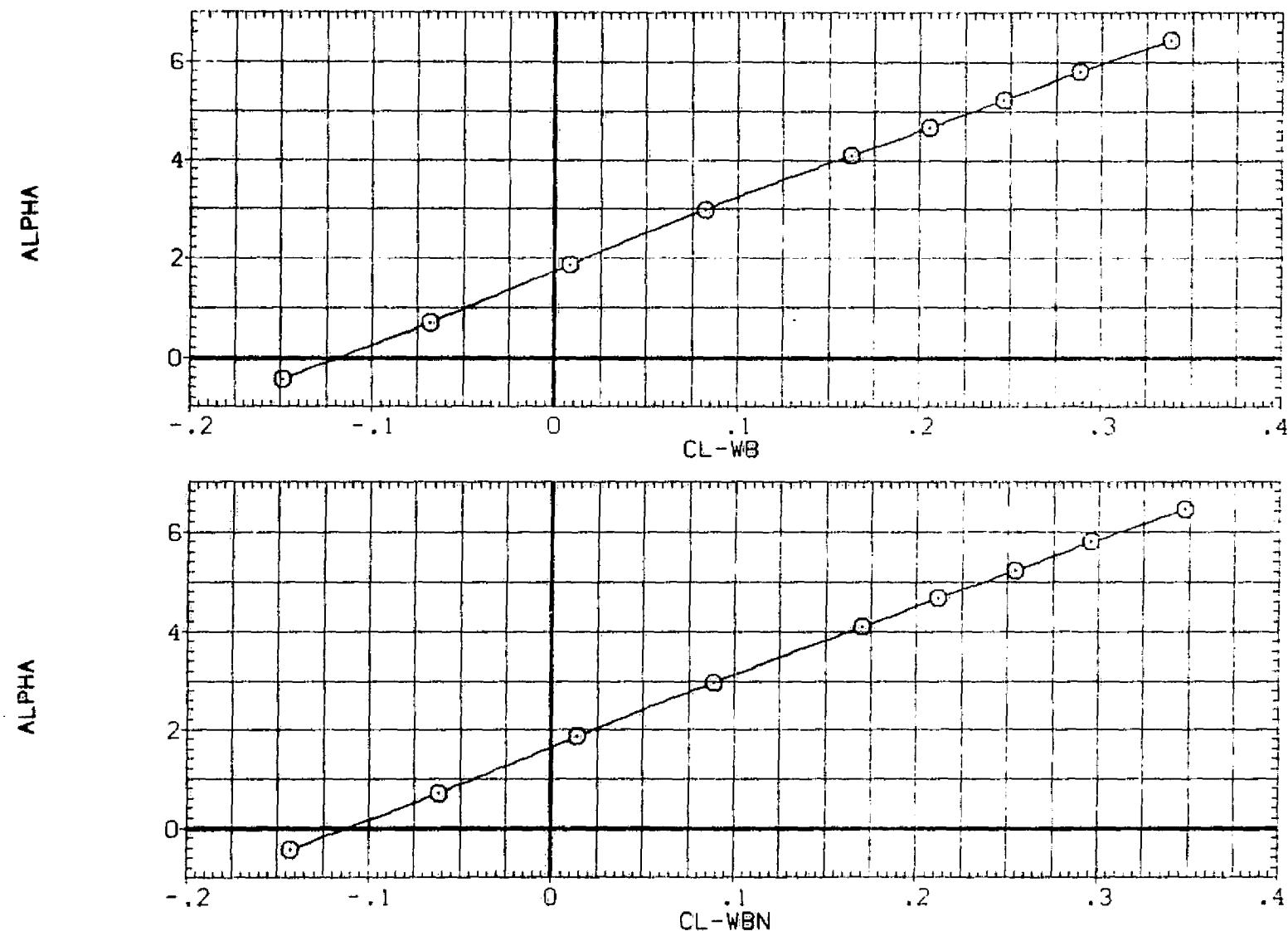


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 159

DATA SET SYMBOL CONFIGURATION DESCRIPTION

ZAPD25	○	W B N1 N1
RAPD26	○	DATA NOT AVAILABLE
RAPD27	○	DATA NOT AVAILABLE
RAPD36	○	DATA NOT AVAILABLE
RAPD37	○	DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	0X
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
18.000	.250	.550	.000

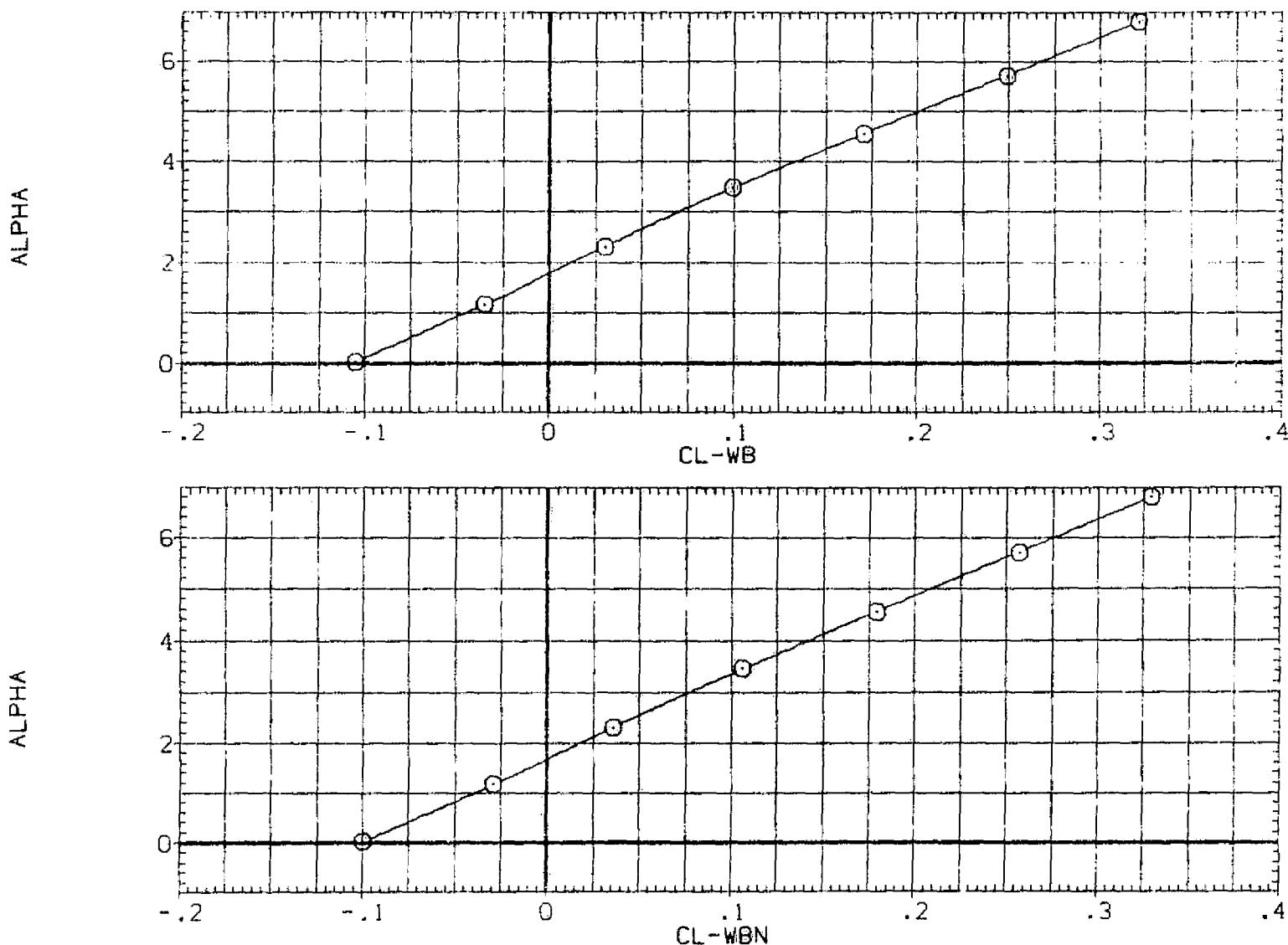


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 160

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	□	v B N1 N1
(RAP026)	□	v B N1 N1
(RAP027)	□	v B N1 N1
(RAP036)	△	v B N2 N2
(RAP037)	□	v B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

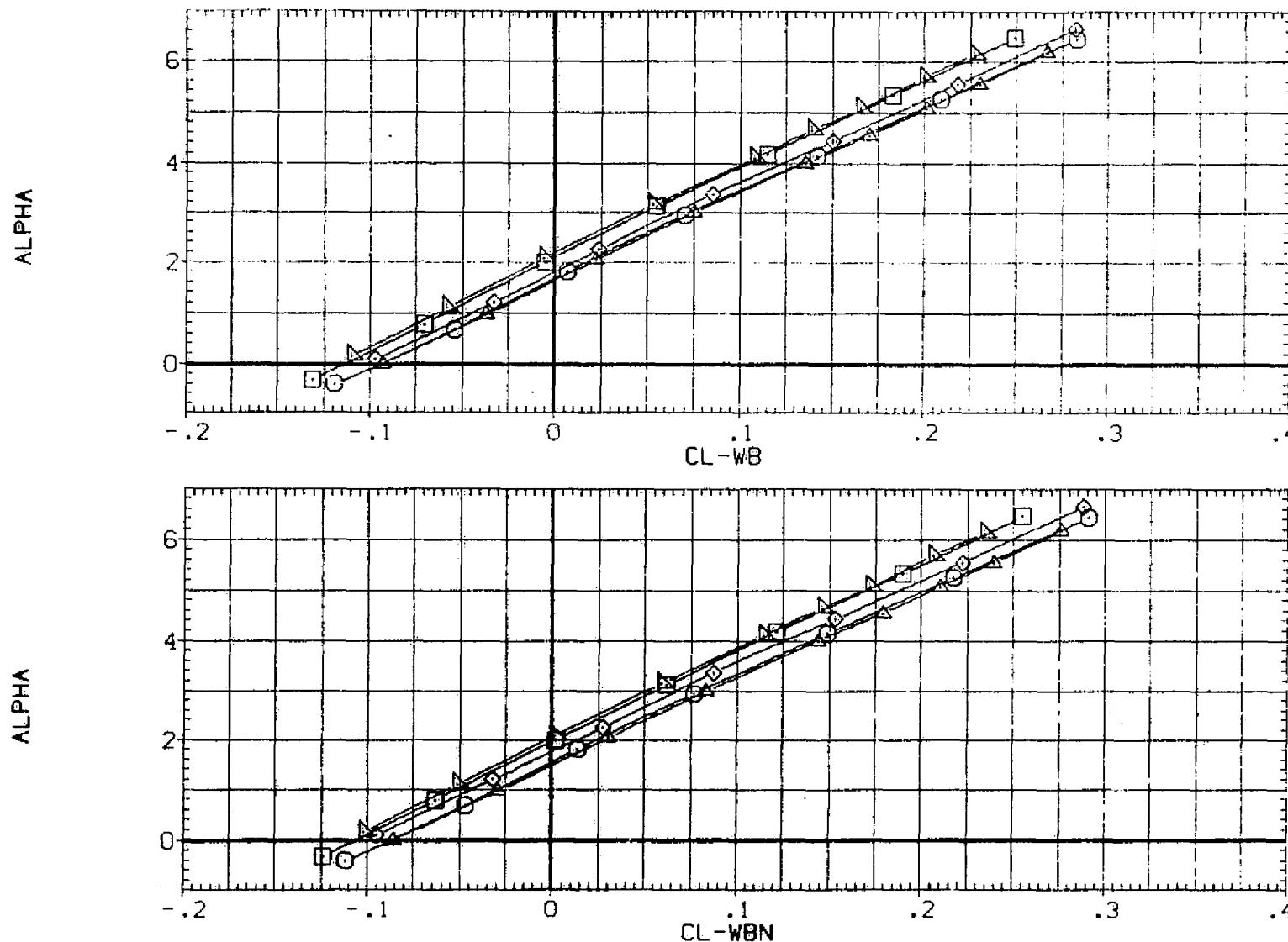


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 161

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) \circ V B N1 N1
 (RAP026) \square DATA NOT AVAILABLE
 (RAP027) \diamond DATA NOT AVAILABLE
 (RAP036) \triangle DATA NOT AVAILABLE
 (RAP037) \boxtimes DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

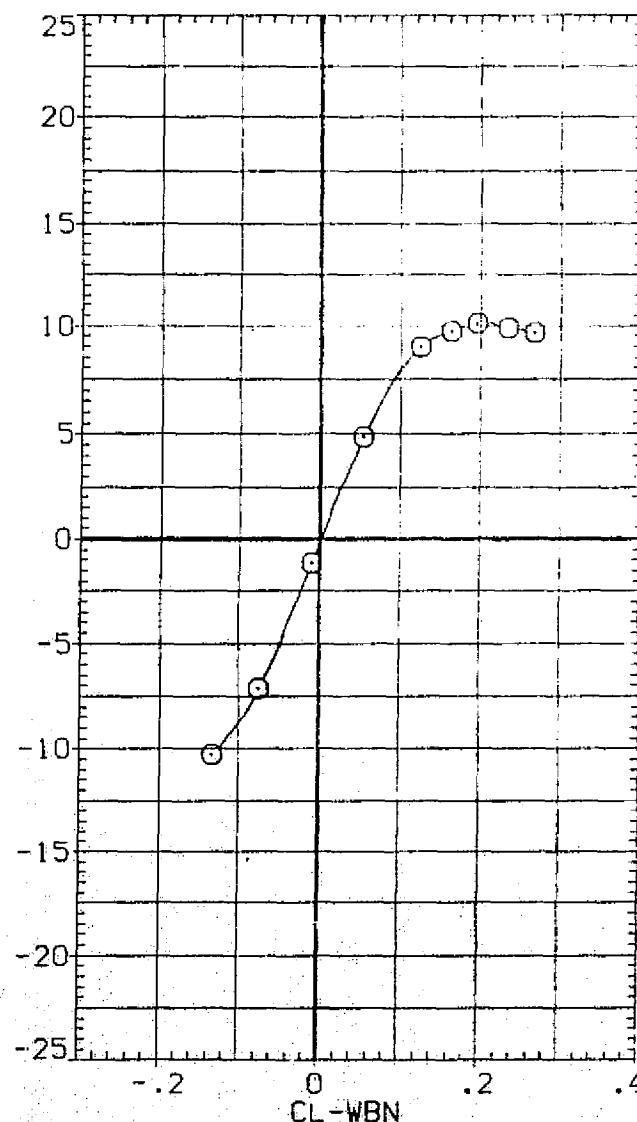
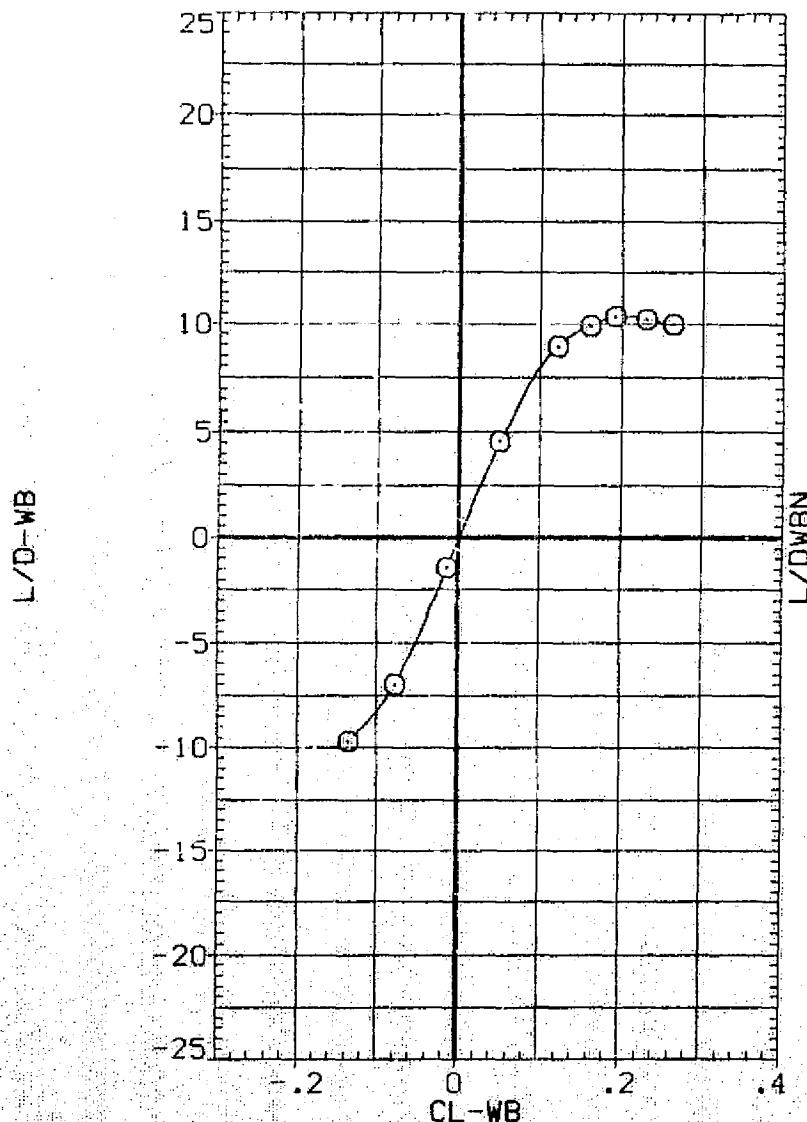


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CAFMACH = .90

PAGE 162

C 3
 DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (ZAP025) O B N1 N1
 (RAP026) X B N1 N1
 (RAP027) X B N1 N1
 (RAP036) A B N2 N2
 (RAP037) A B N2 N2

X-INBD 2Y1/B 2Y0/B DX
 56,000 .250 .550 .000
 48,000 .250 .550 .000
 40,000 .250 .550 .000
 56,000 .250 .550 .000
 48,000 .250 .550 .000

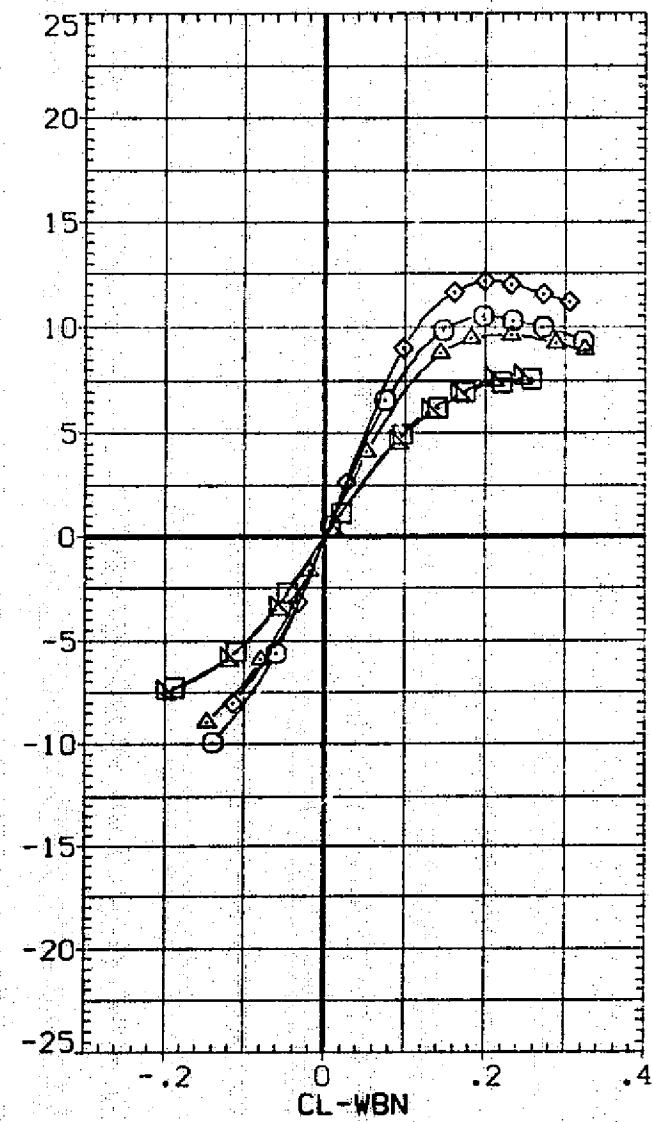
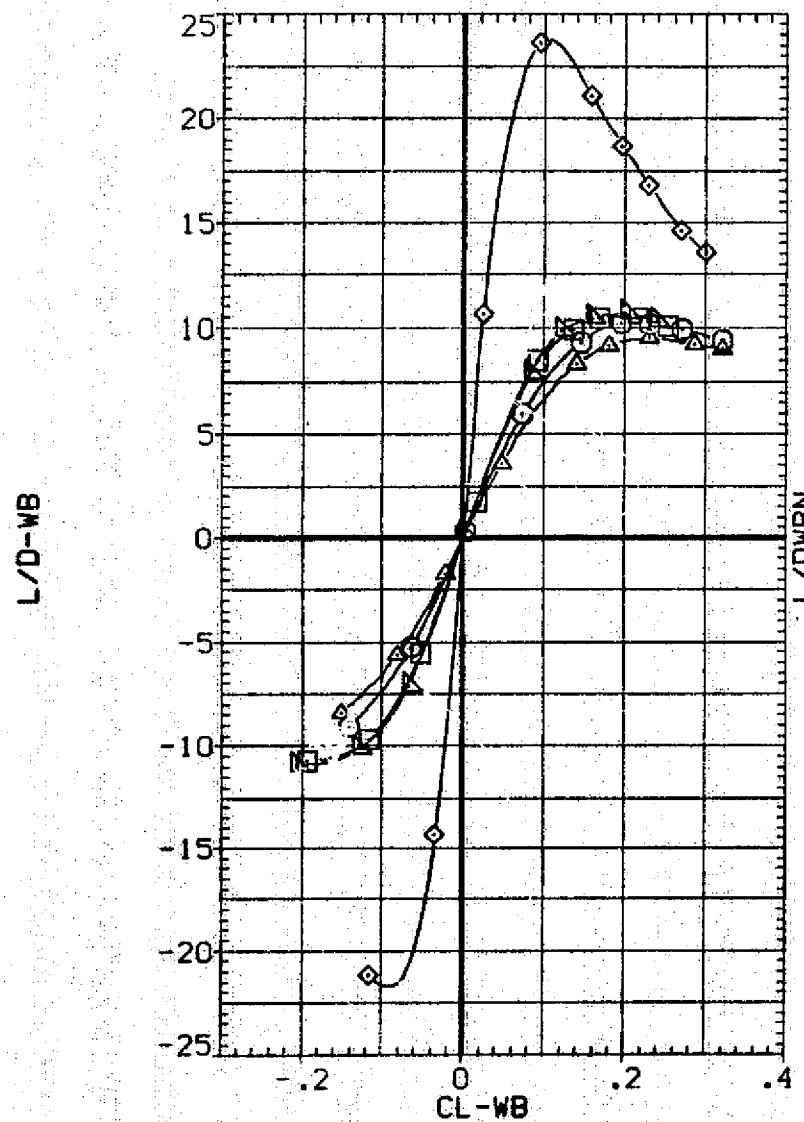


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)  WB NI NI
 (RAP026)  DATA NOT AVAILABLE
 (RAP027)  DATA NOT AVAILABLE
 (RAP036)  DATA NOT AVAILABLE
 (RAP037)  DATA NOT AVAILABLE

X-1NB0	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

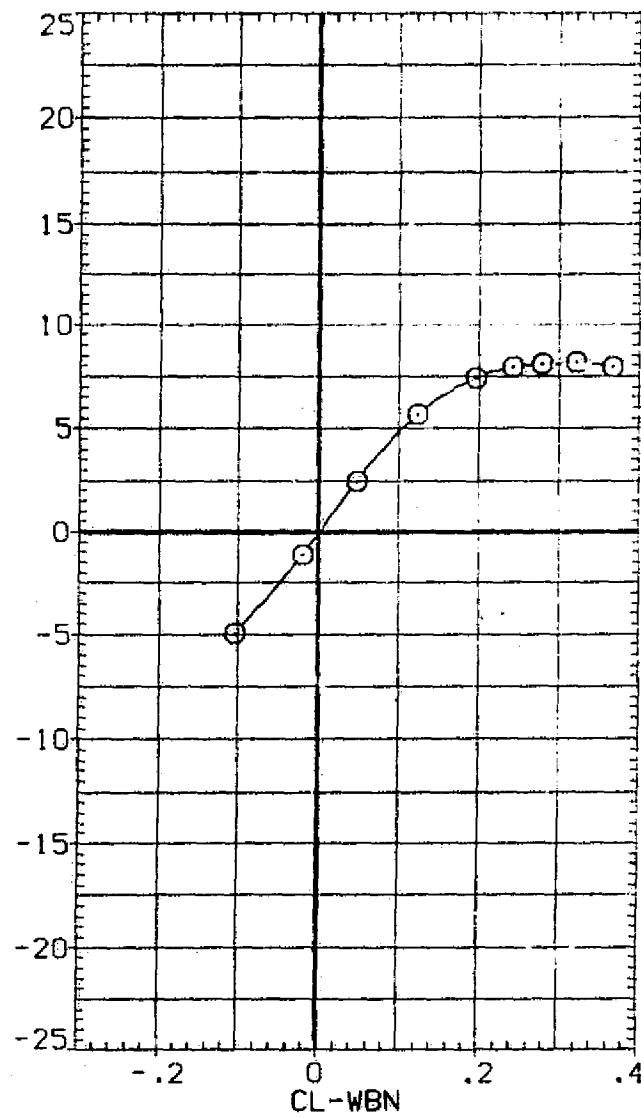
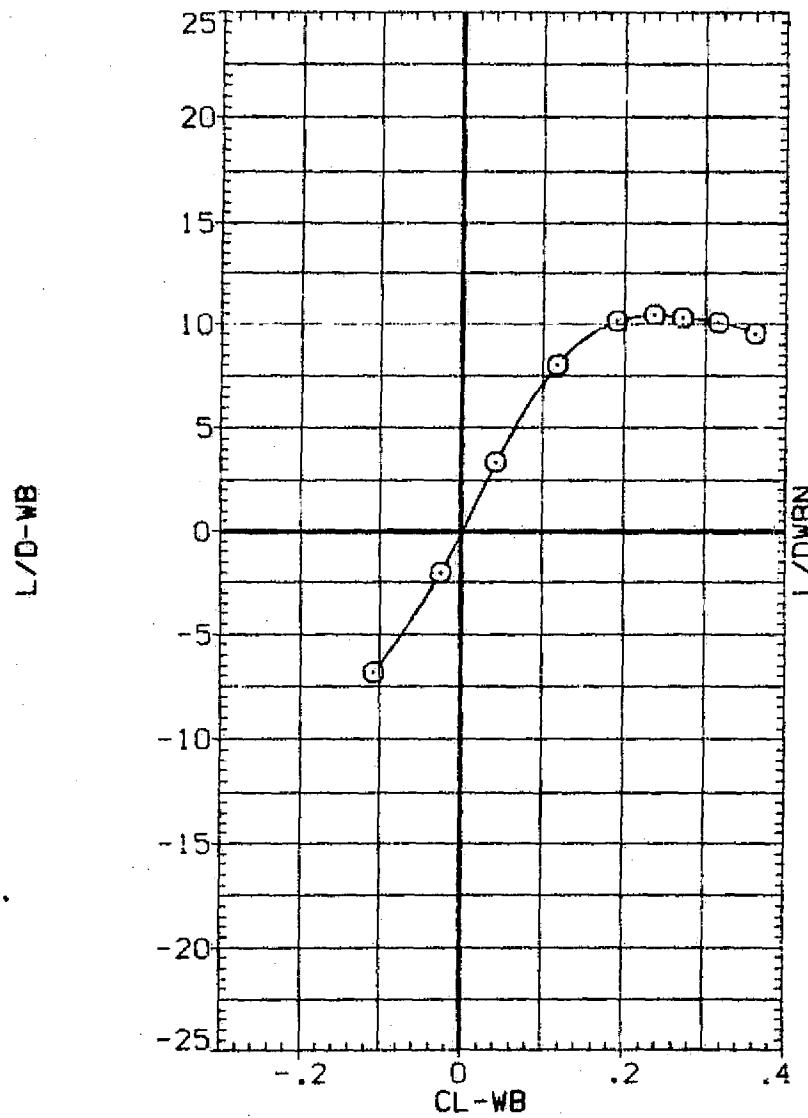


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 164

DATA SET SYMBOL CONFIGURATION DESCRIPTION

CRAP025	CL	N1	N1
CRAP026	CL	N1	N1
CRAP027	CL	N1	N1
CRAP036	CL	N2	N2
CRAP037	CL	N2	N2

X-IN80	ZYI/B	ZY0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

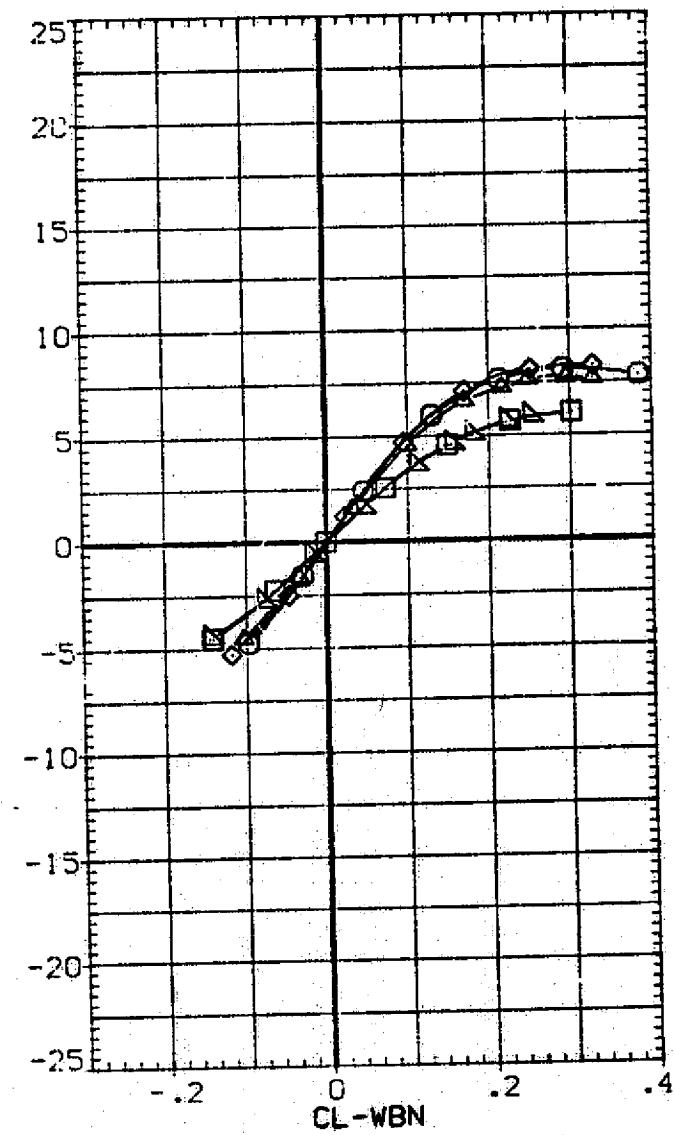
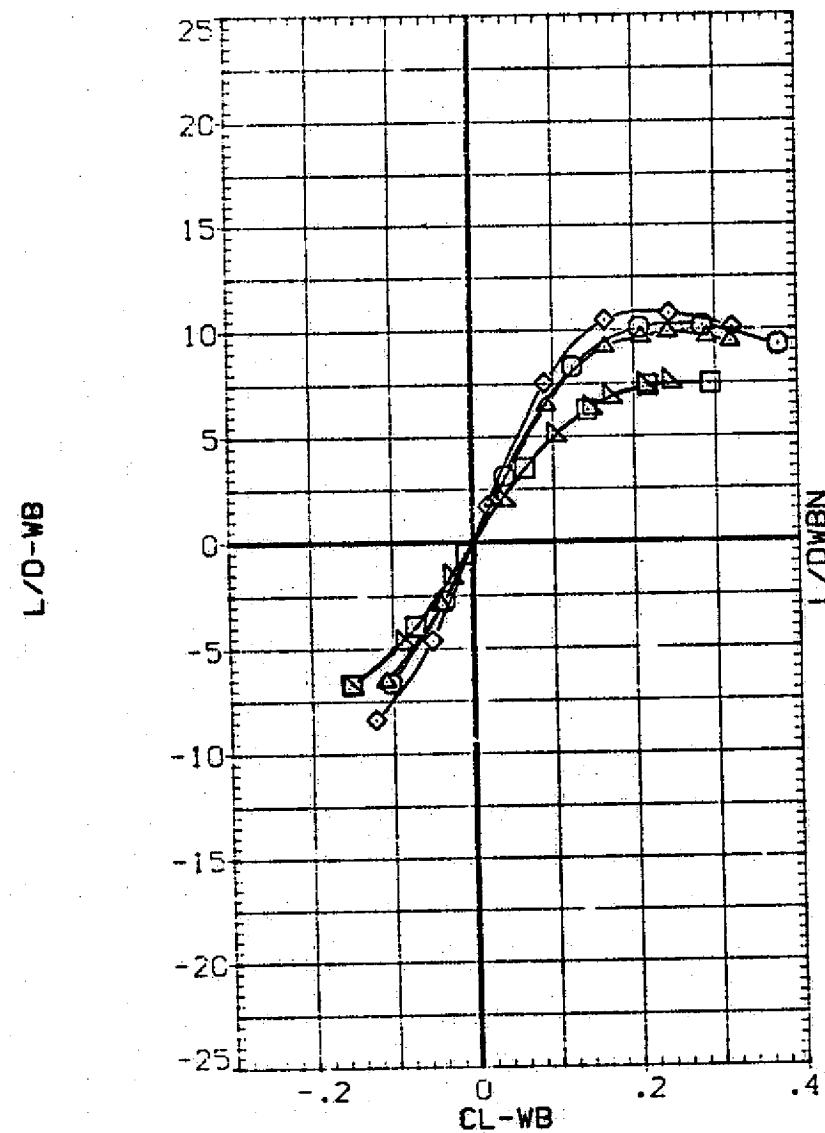


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(S)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)  W B NI NI
 (RAP026)  DATA NOT AVAILABLE
 (RAP027)  DATA NOT AVAILABLE
 (RAP036)  DATA NOT AVAILABLE
 (RAP037)  DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

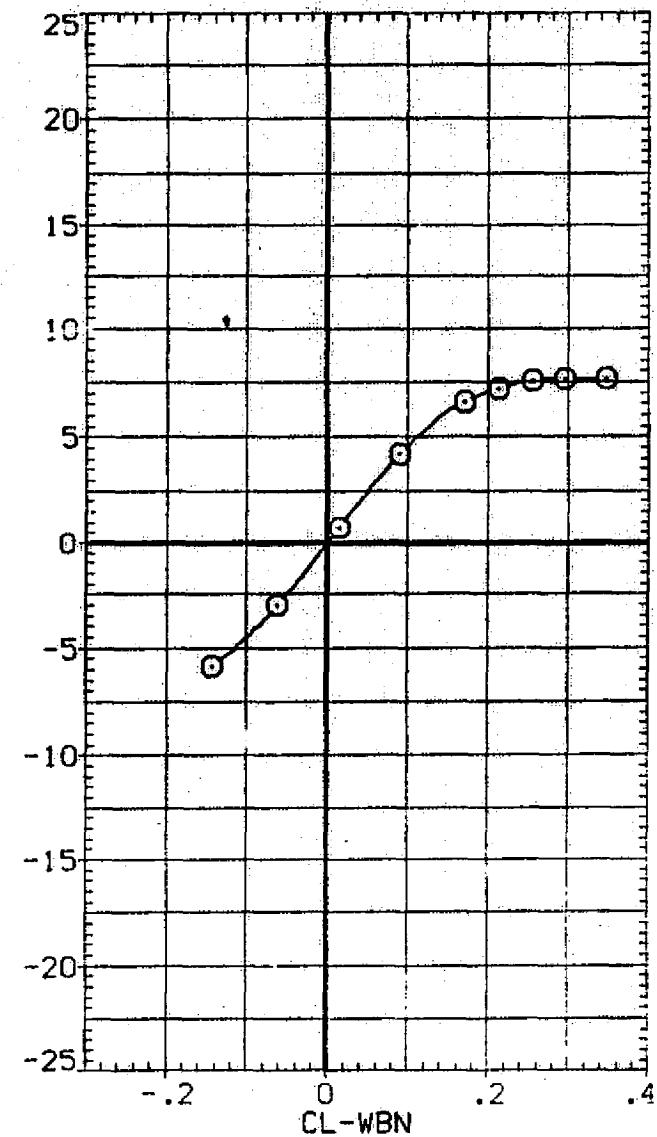
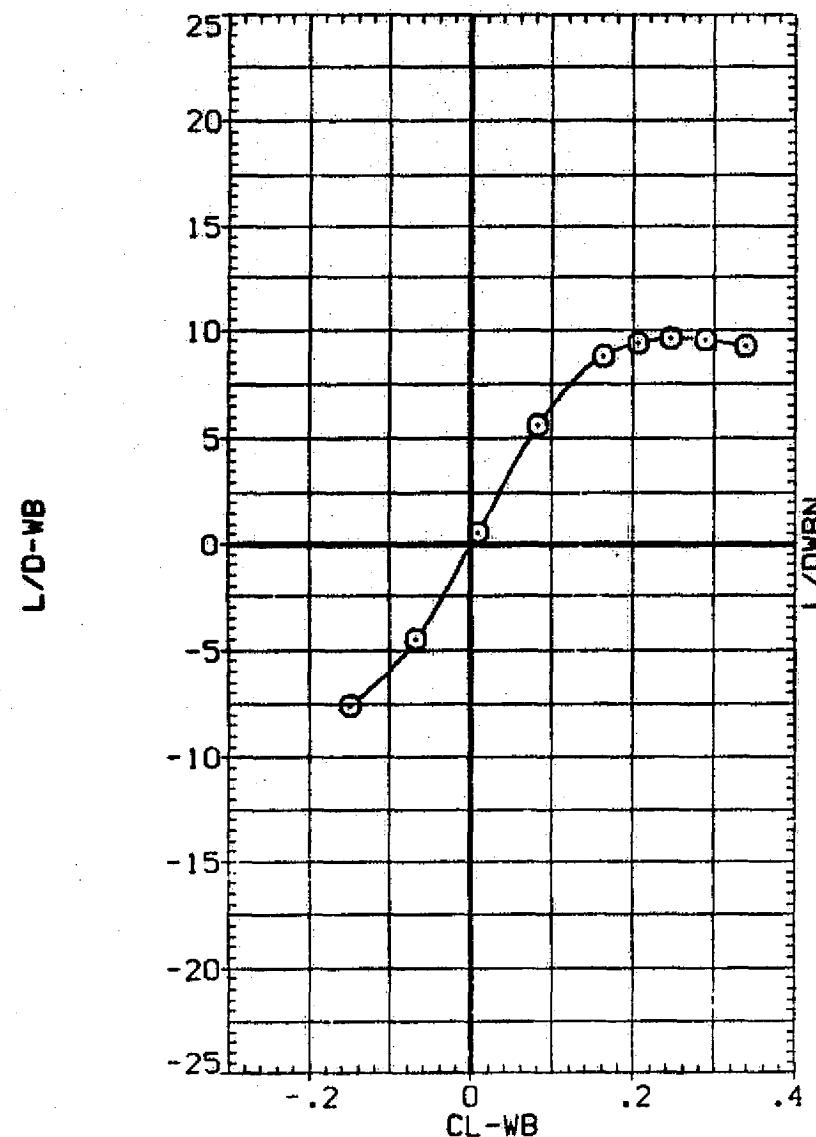
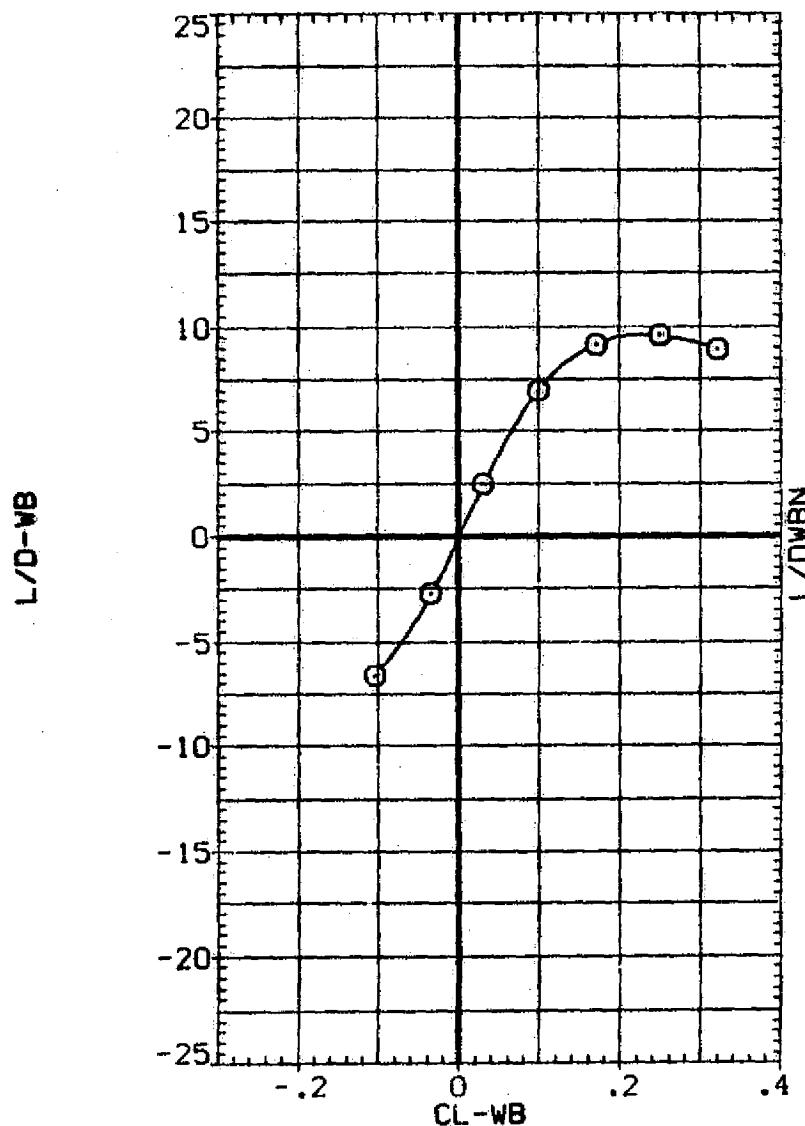


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(RAP026)	×	DATA NOT AVAILABLE
(RAP027)	×	DATA NOT AVAILABLE
(RAP036)	△	DATA NOT AVAILABLE
(RAP037)	△	DATA NOT AVAILABLE



X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

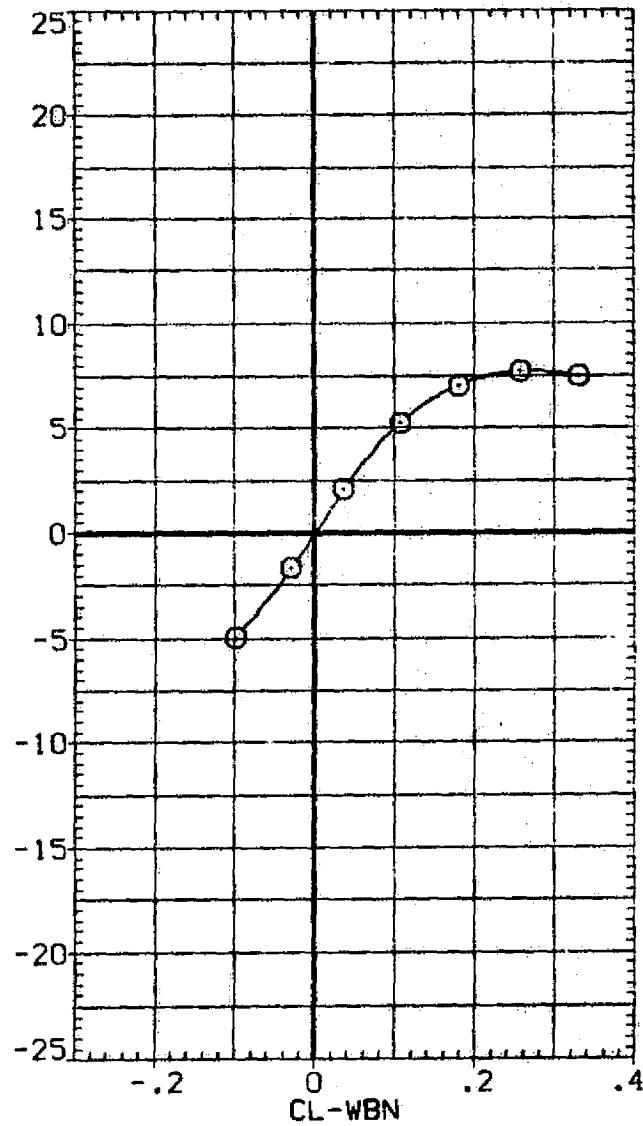


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(RAP026)	□	W B N1 N1
(RAP027)	×	W B N1 N1
(RAP036)	△	W B N2 N2
(RAP037)	▽	W B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

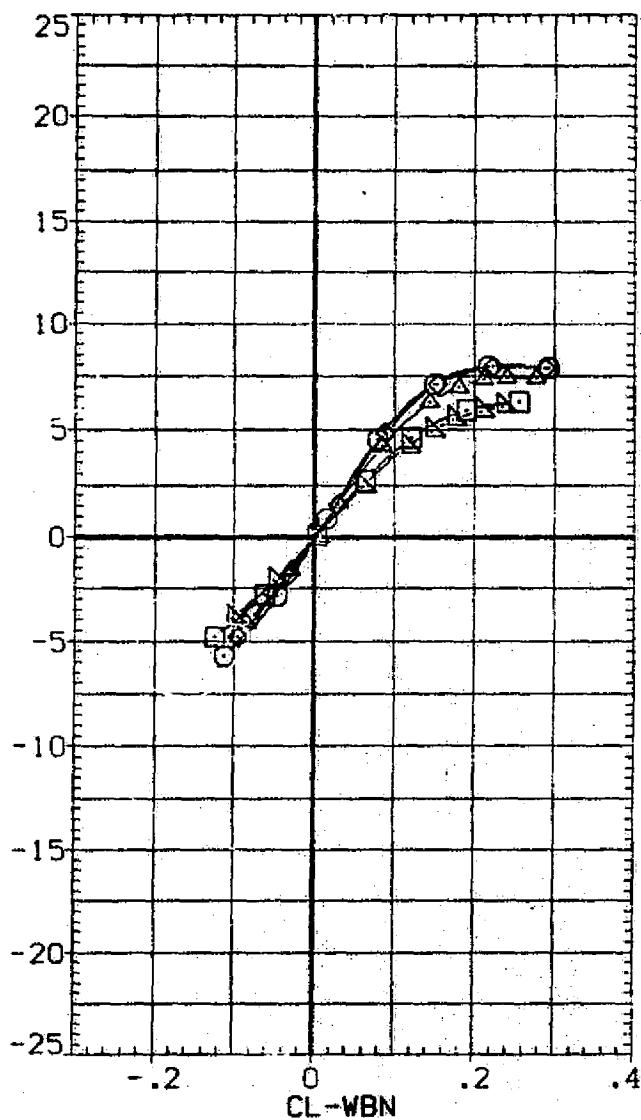
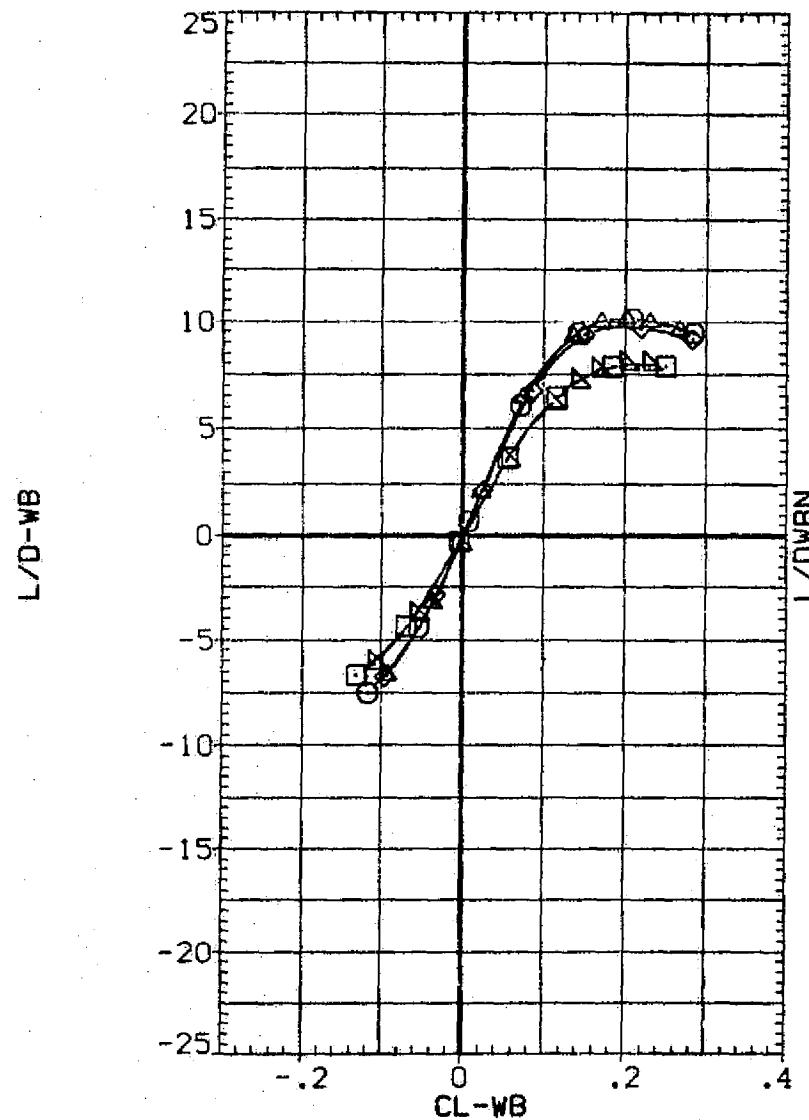


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(RAP026)	□	DATA NOT AVAILABLE
(RAP027)	×	DATA NOT AVAILABLE
(RAP036)	△	DATA NOT AVAILABLE
(RAP037)	△	DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

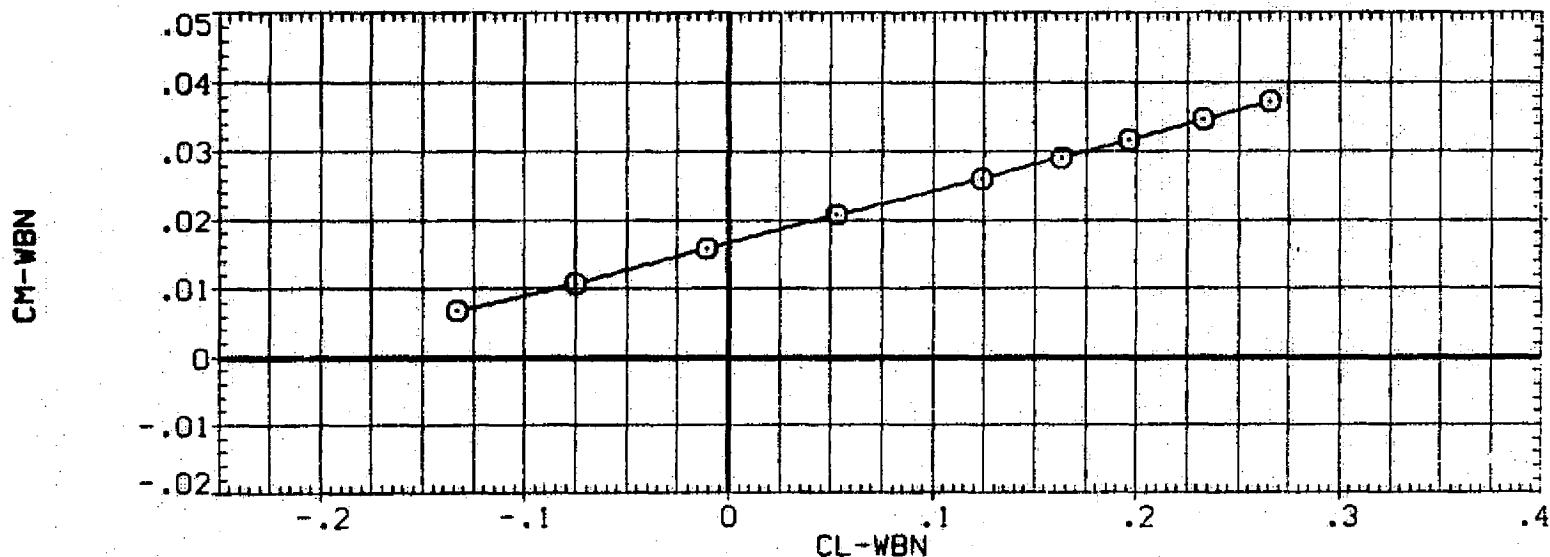
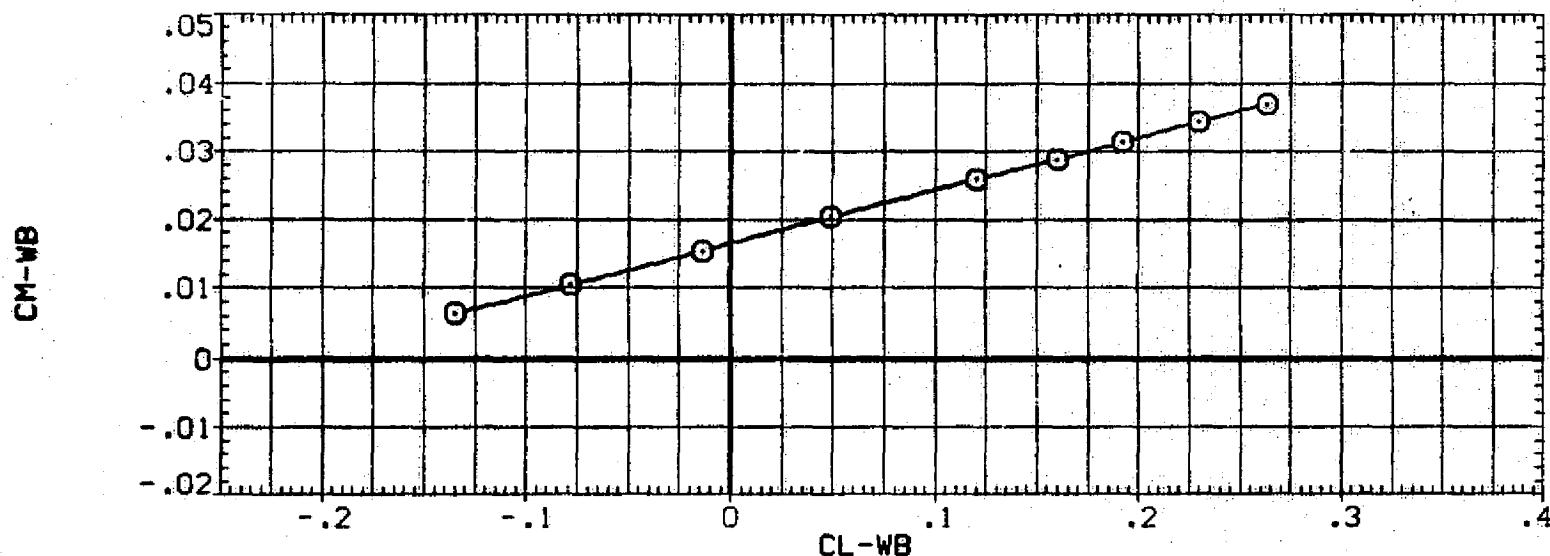


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B N1 N1
(ZAP026)	□	W B N1 N1
(ZAP027)	◇	W B N1 N1
(ZAP036)	◇	W B N2 N2
(ZAP037)	▽	W B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
36.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

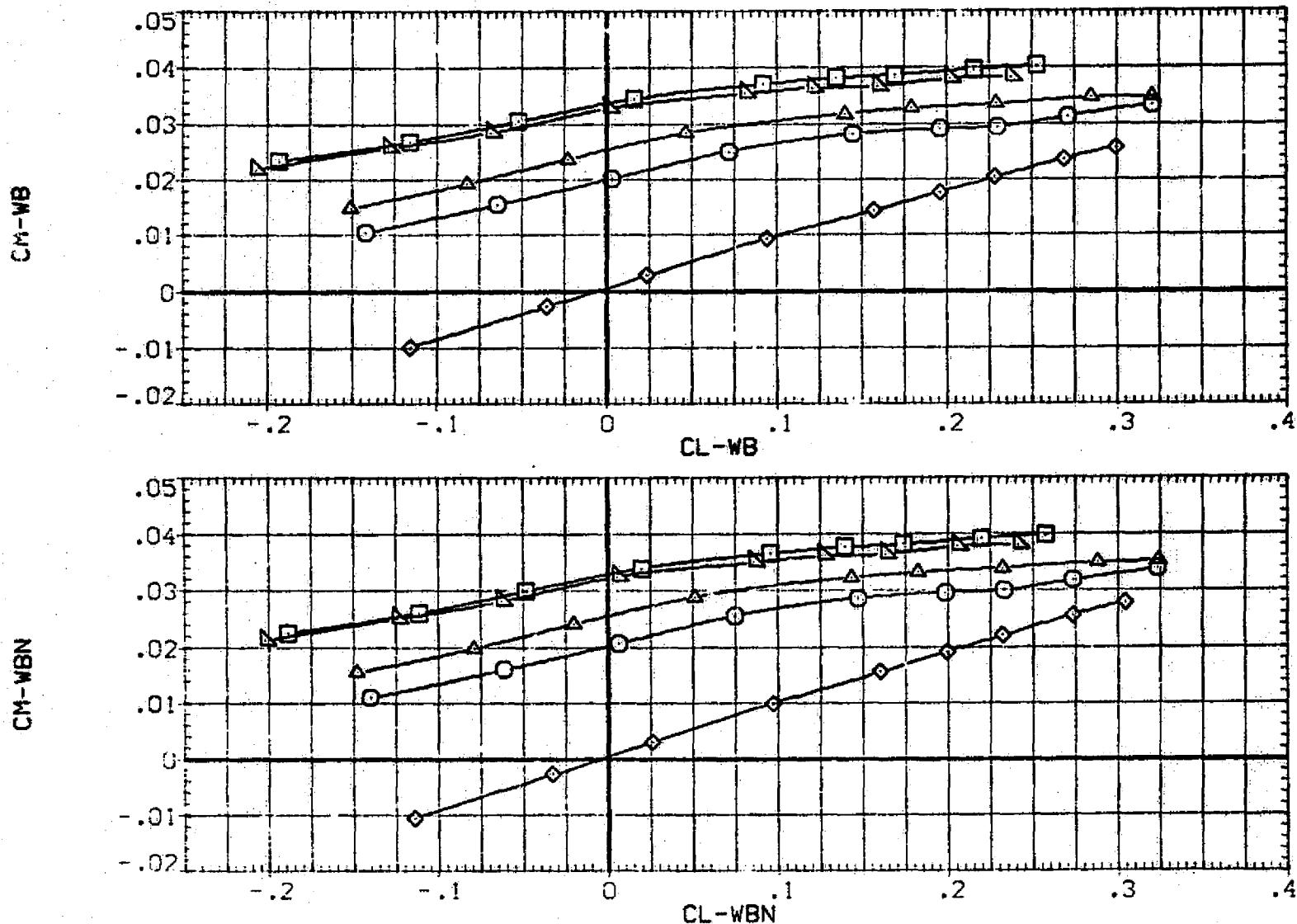


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

GSINACH = .98

PAGE 170

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
RAP025	W B NI NI
RAP026	DATA NOT AVAILABLE
RAP027	DATA NOT AVAILABLE
RAP036	DATA NOT AVAILABLE
RAP037	DATA NOT AVAILABLE

X-INBD	2Y1/8	2Y0/8	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

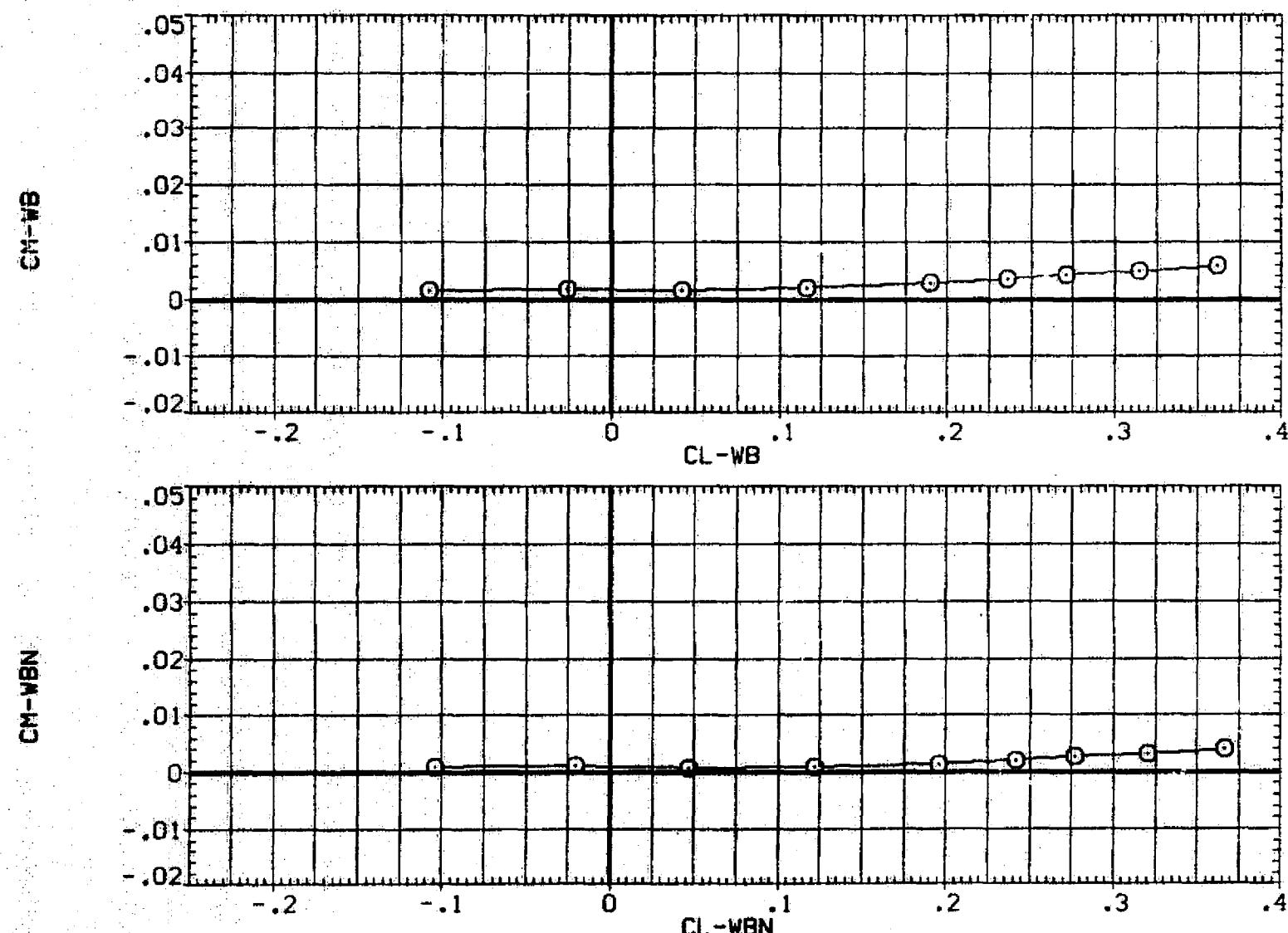


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 171

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	○ B N1 N1
(RAP026)	□ B N1 N1
(RAP027)	△ B N1 N1
(RAP036)	× B N2 N2
(RAP037)	△ B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

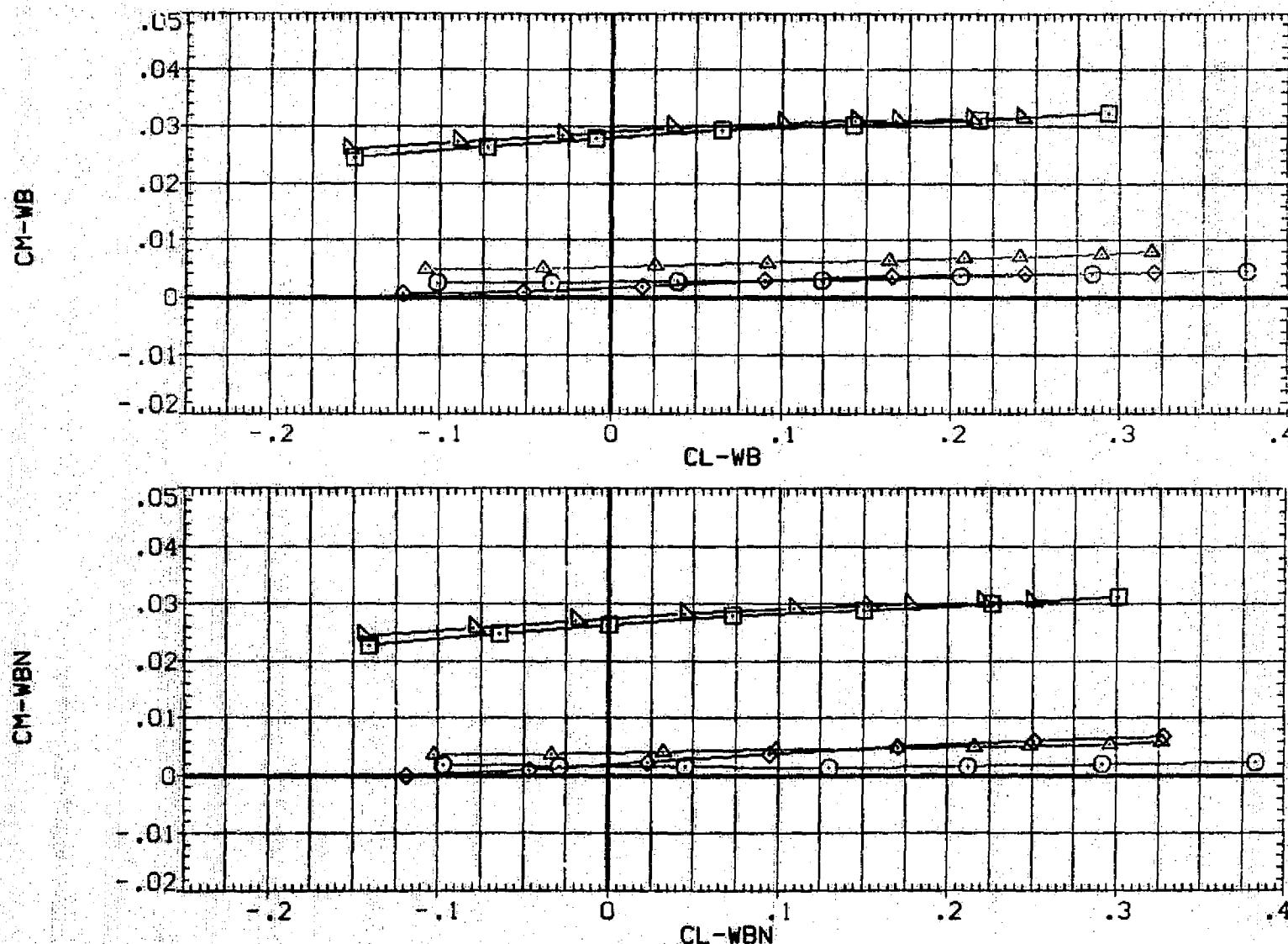


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

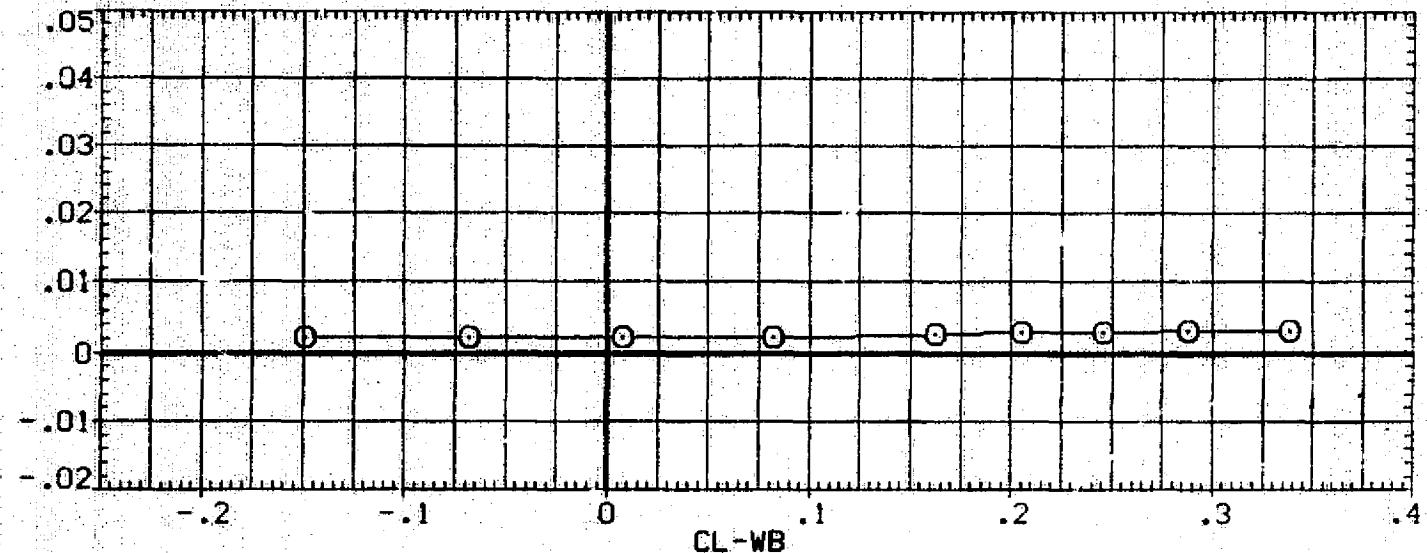
(D)MACH = 1.15

PAGE 172

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
RAP025	W B N1 N1
RAP026	DATA NOT AVAILABLE
RAP027	DATA NOT AVAILABLE
RAP036	DATA NOT AVAILABLE
RAP037	DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

CM-WB



CM-WBN

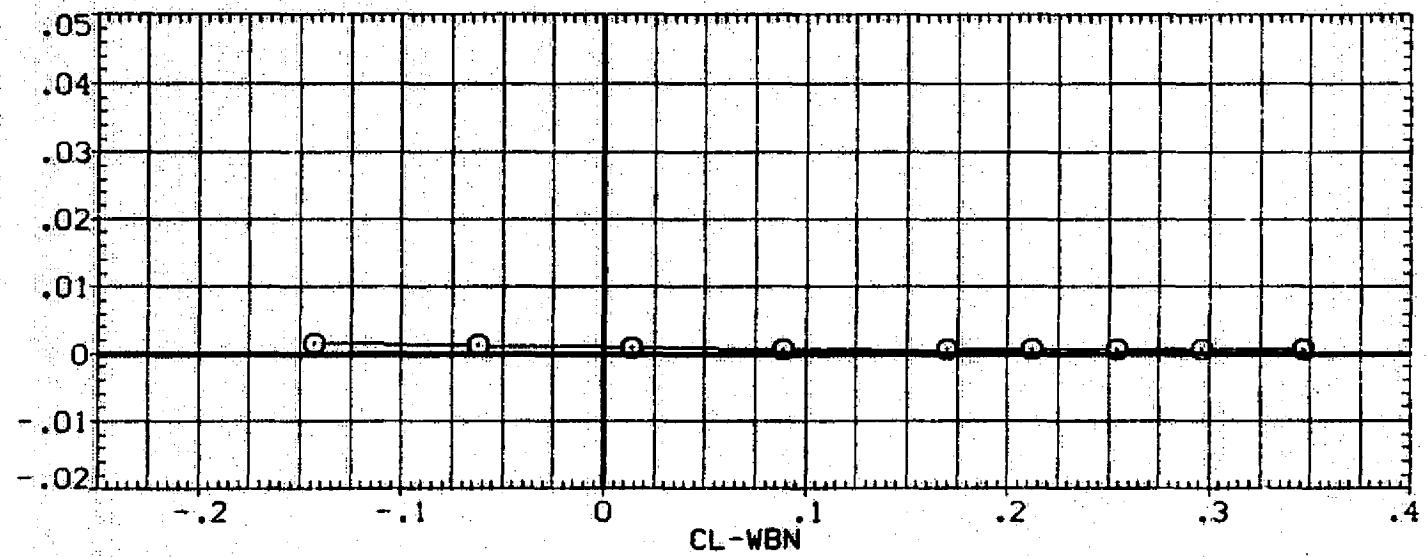


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

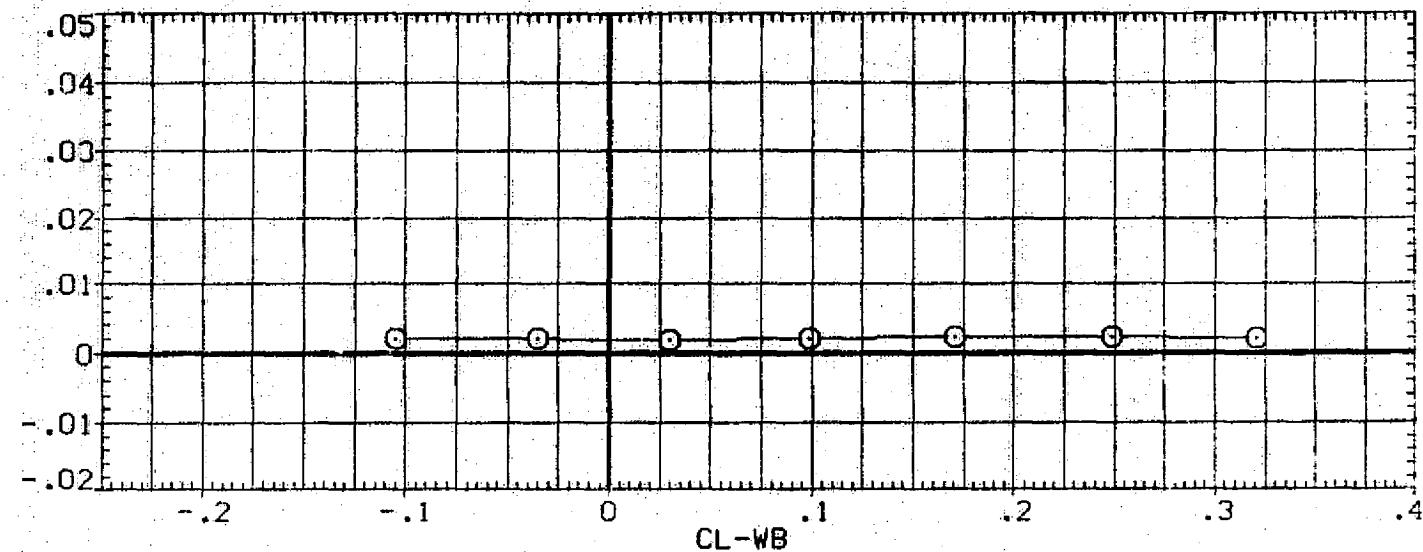
PAGE 173

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)	○	W B NI NI
(RAP026)	○	DATA NOT AVAILABLE
(RAP027)	○	DATA NOT AVAILABLE
(RAP036)	○	DATA NOT AVAILABLE
(RAP037)	○	DATA NOT AVAILABLE

X-INB0	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

CM-WB



CM-WBN

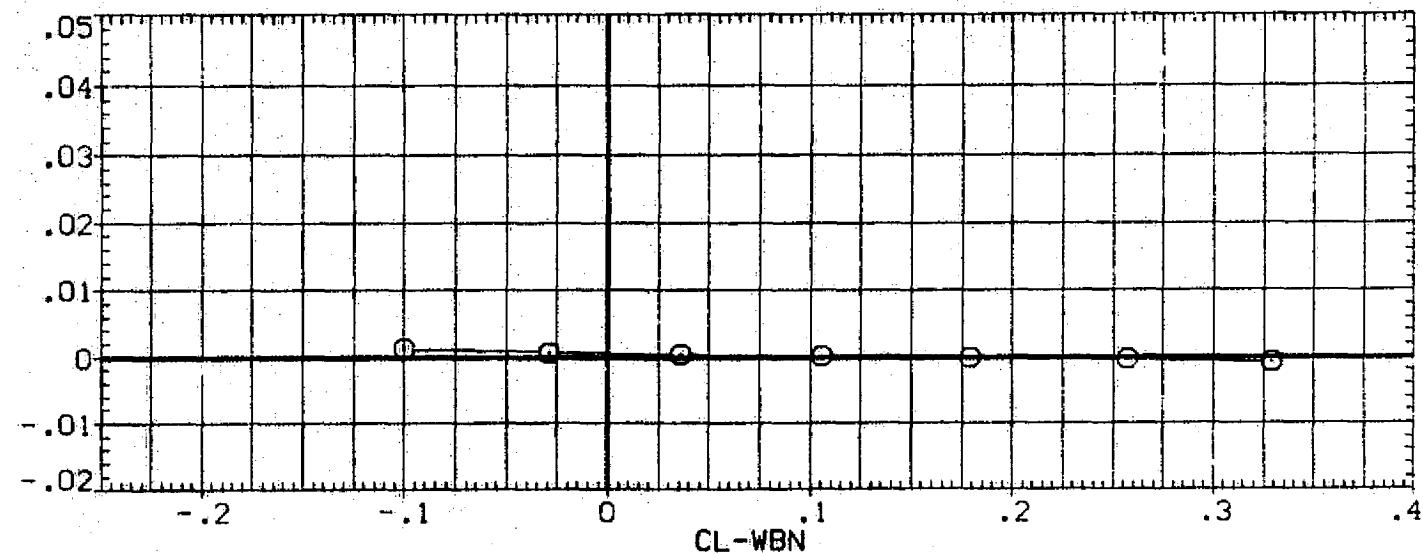


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 174

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(ZAP025)	○ B N1 N1
(RAP026)	□ B N1 N1
(RAP027)	◇ B N1 N1
(RAP036)	△ B N2 N2
(RAP037)	▽ B N2 N2

X-1N80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

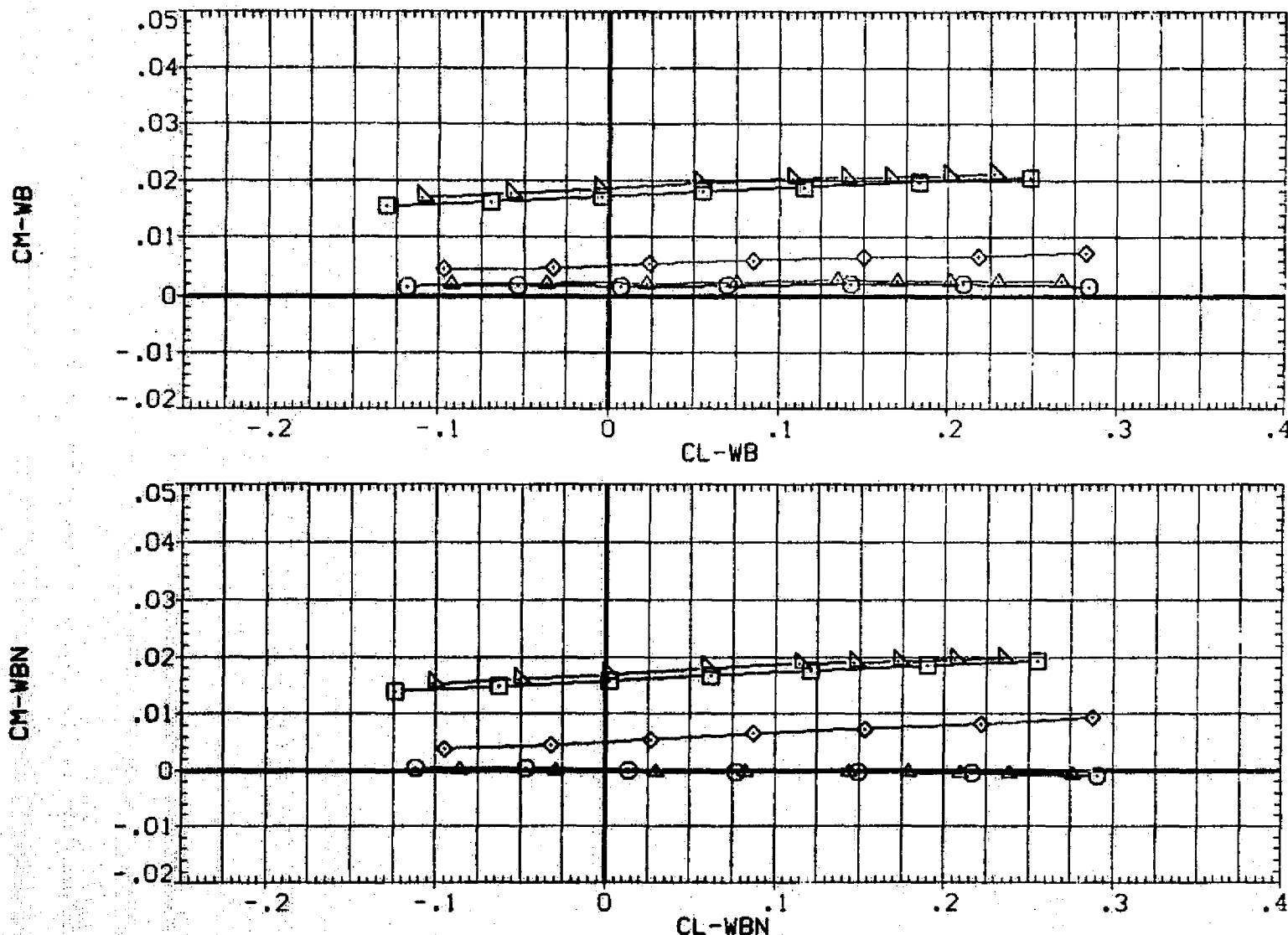


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 175

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) W B NI NI
 (RAP026) DATA NOT AVAILABLE
 (RAP027) DATA NOT AVAILABLE
 (RAP036) DATA NOT AVAILABLE
 (RAP037) DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

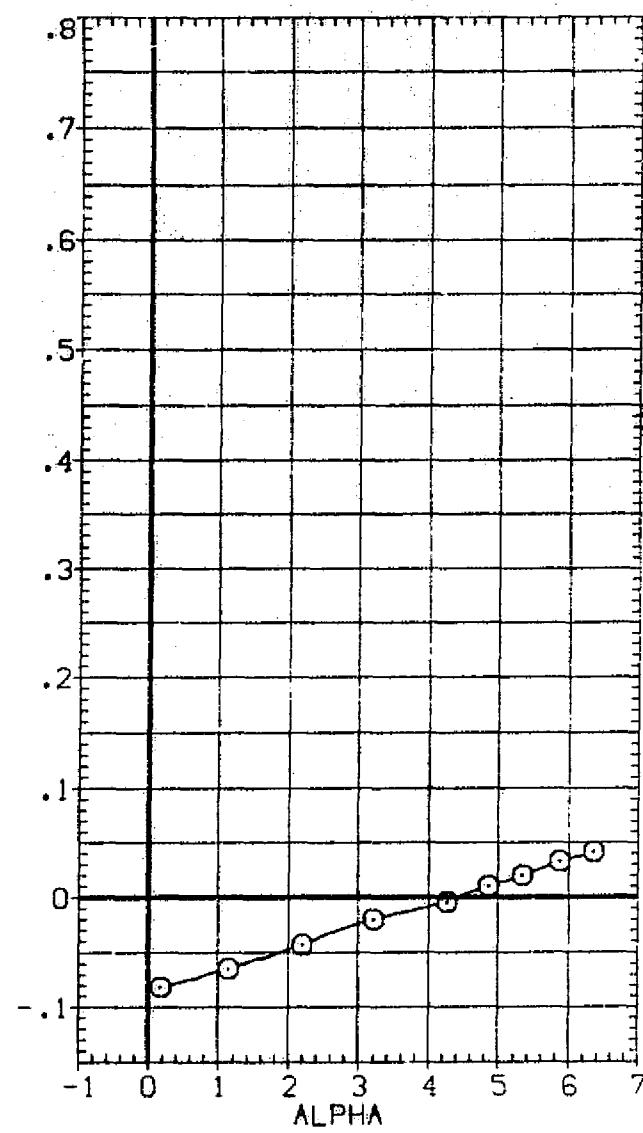
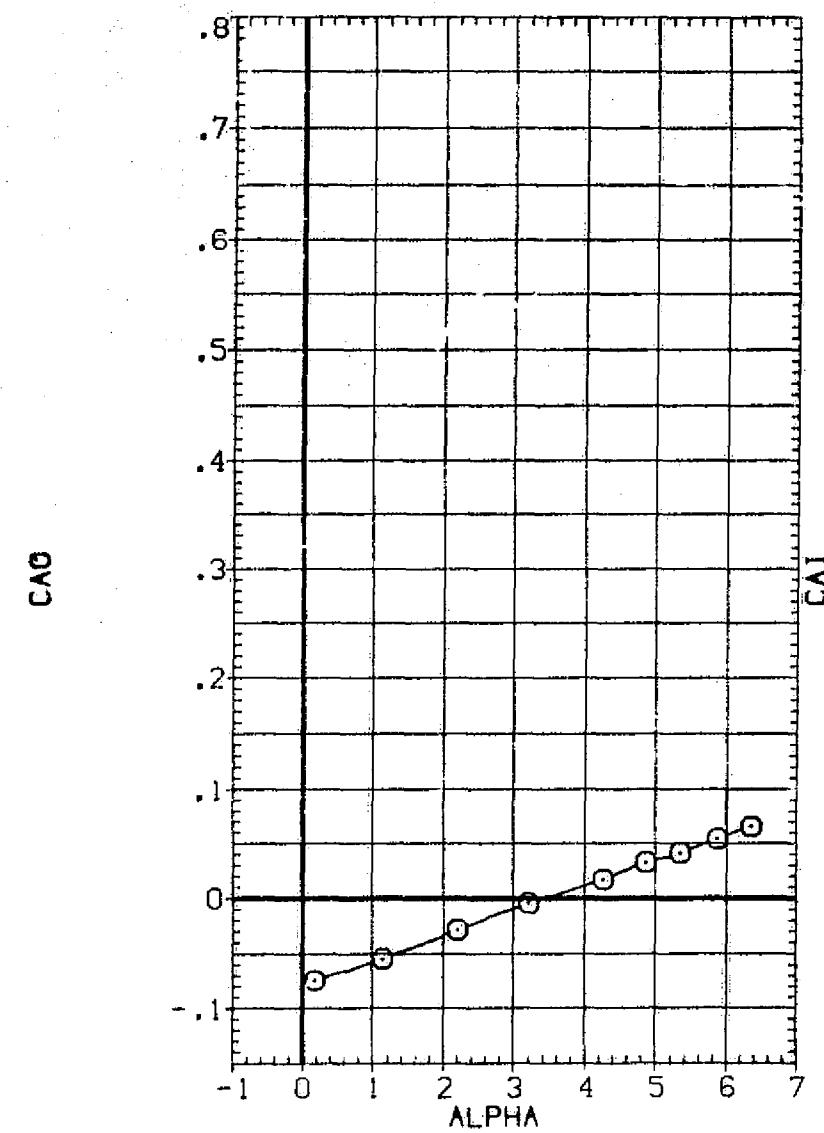


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

$(\Delta)MACH = .90$

DATA SET SYMBOL CONFIGURATION DESCRIPTION

ZAP025	○	W B N1 N1
RAPO26	■	W B N1 N1
RAPO27	○	W B N1 N1
RAPO36	△	W B N2 N2
RAPO37	□	W B N2 N2

X - INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

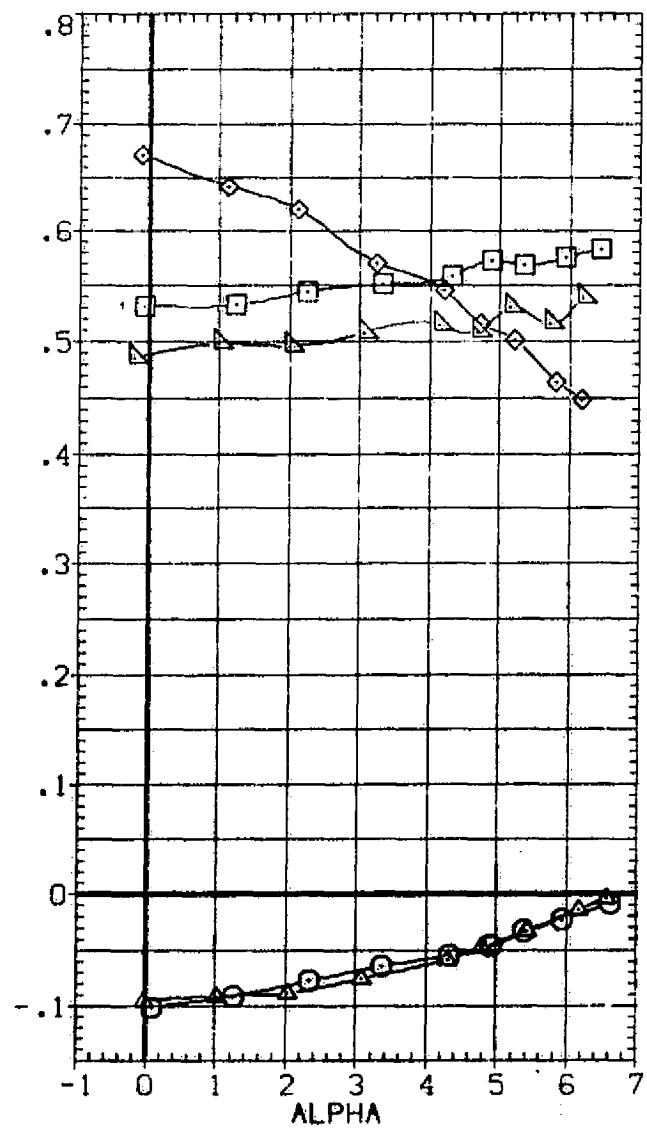
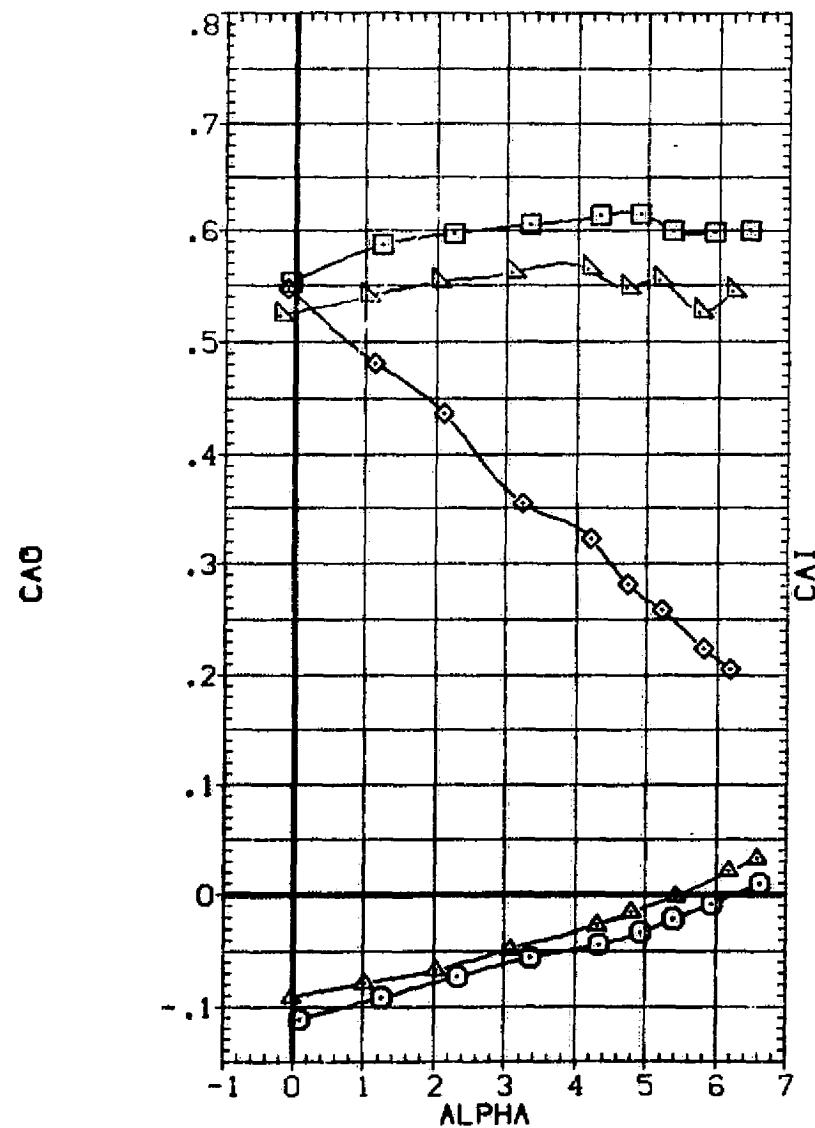


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 177

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025) \circ V-B NI NI
 (RAP026) \square DATA NOT AVAILABLE
 (RAP027) $\circ\circ$ DATA NOT AVAILABLE
 (RAP036) \triangle DATA NOT AVAILABLE
 (RAP037) ∇ DATA NOT AVAILABLE

X-INCH	ZY1/B	ZY0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

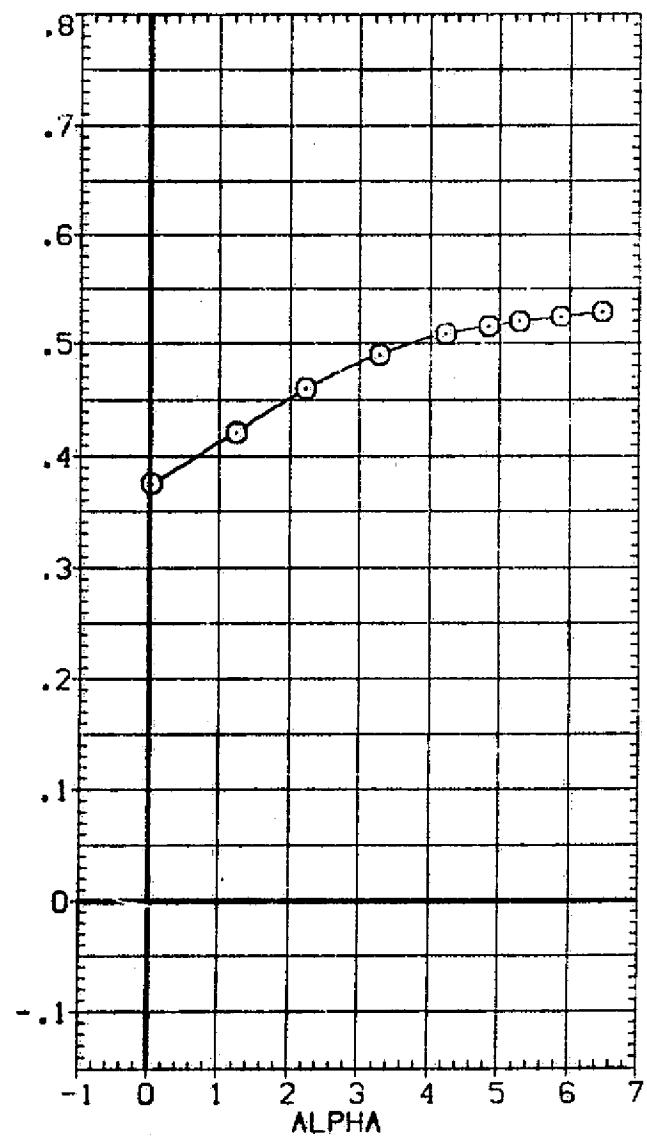
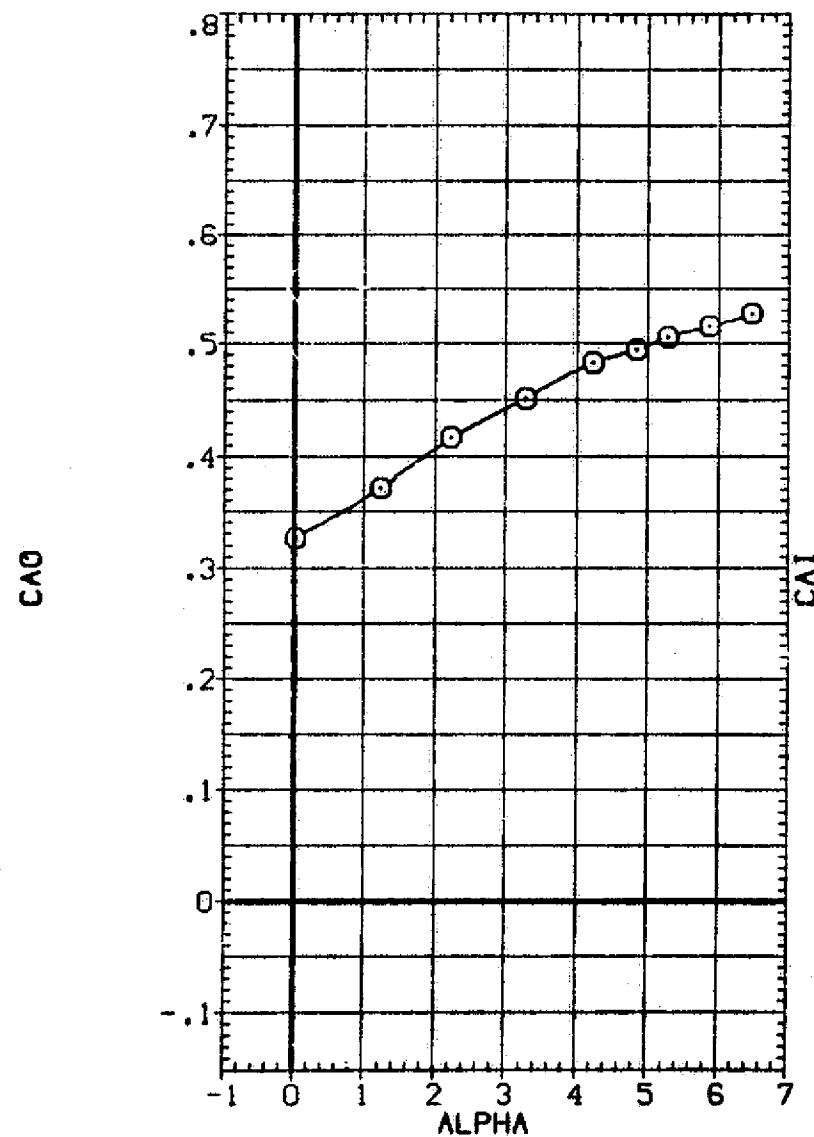


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 178

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[ZAP025]	□	▼ B N1 N1
[ZAP026]	○	▼ B N1 N1
[RAP027]	×	▼ B N1 N1
[RAP036]	△	▼ B N2 N2
[RAP037]	▽	▼ B N2 N2

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

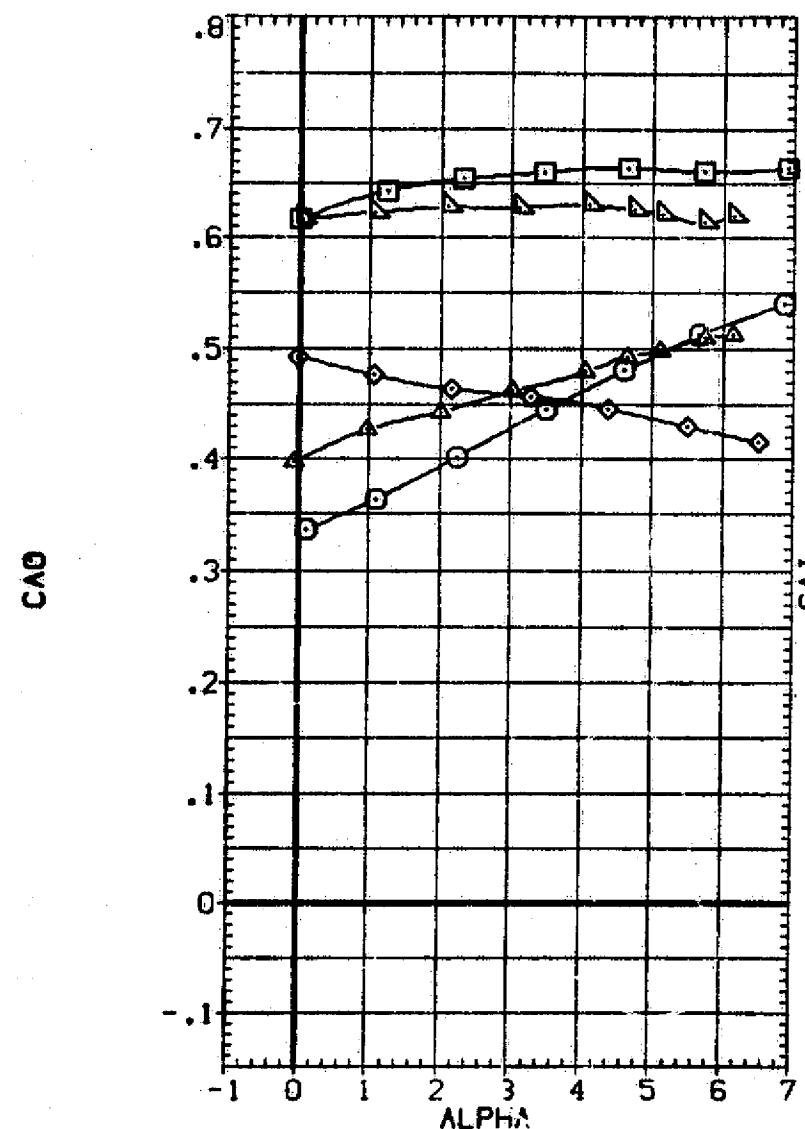
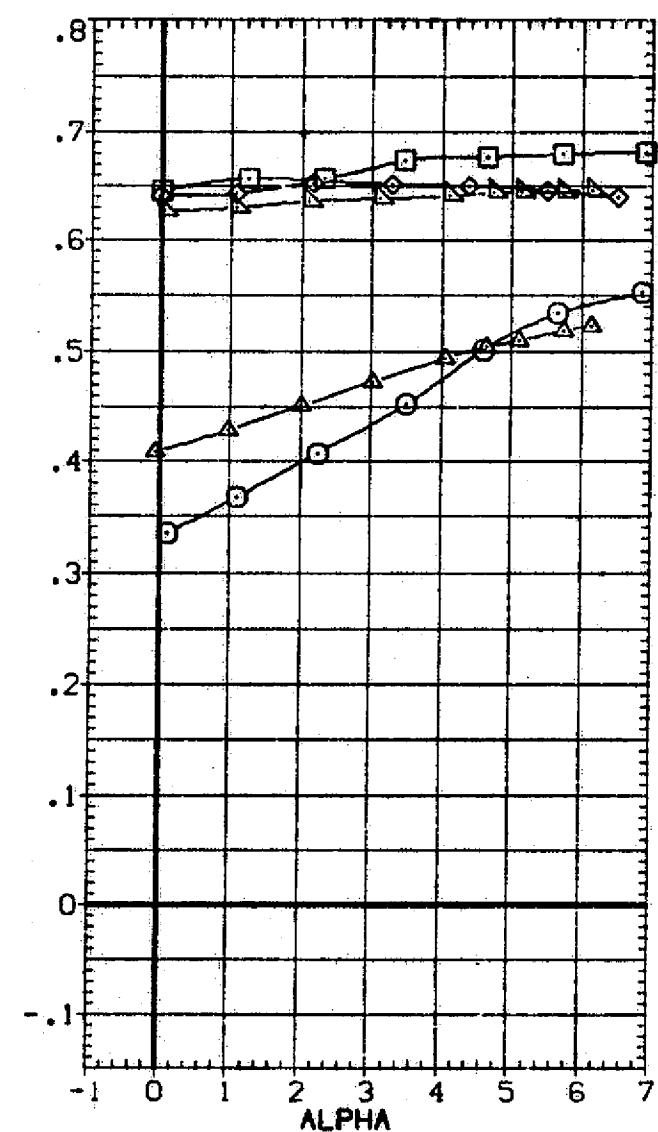


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15



PAGE 179

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[ZAP025]	○	V B N1 N1
[RAP026]	□	DATA NOT AVAILABLE
[RAP027]	×	DATA NOT AVAILABLE
[RAP036]	△	DATA NOT AVAILABLE
[RAP037]	▽	DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

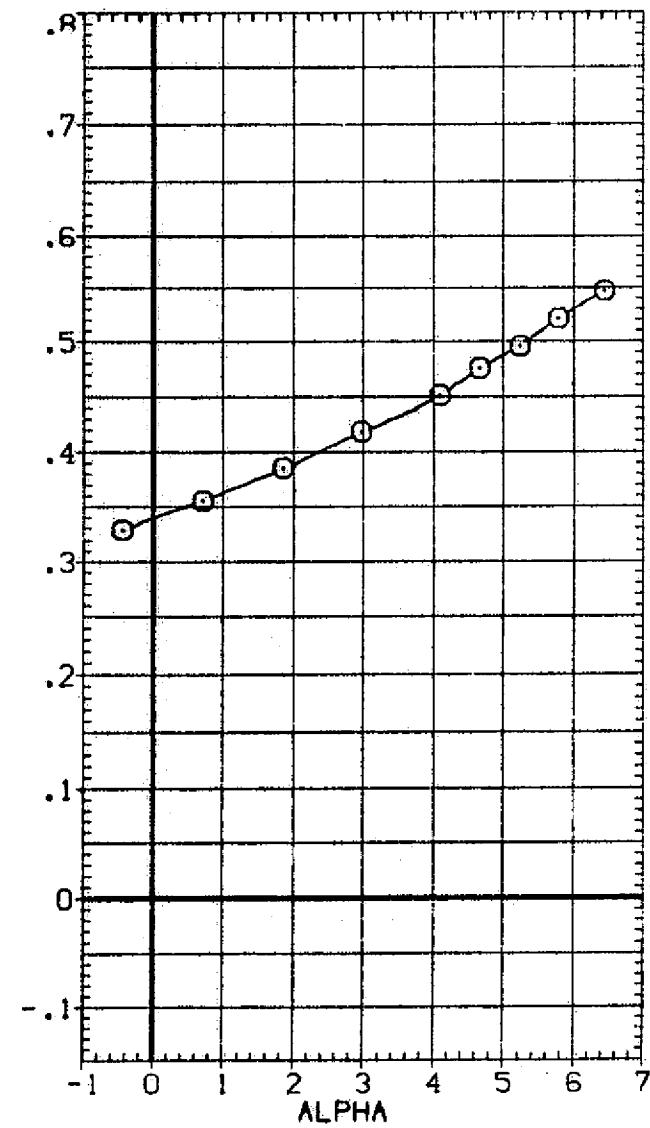
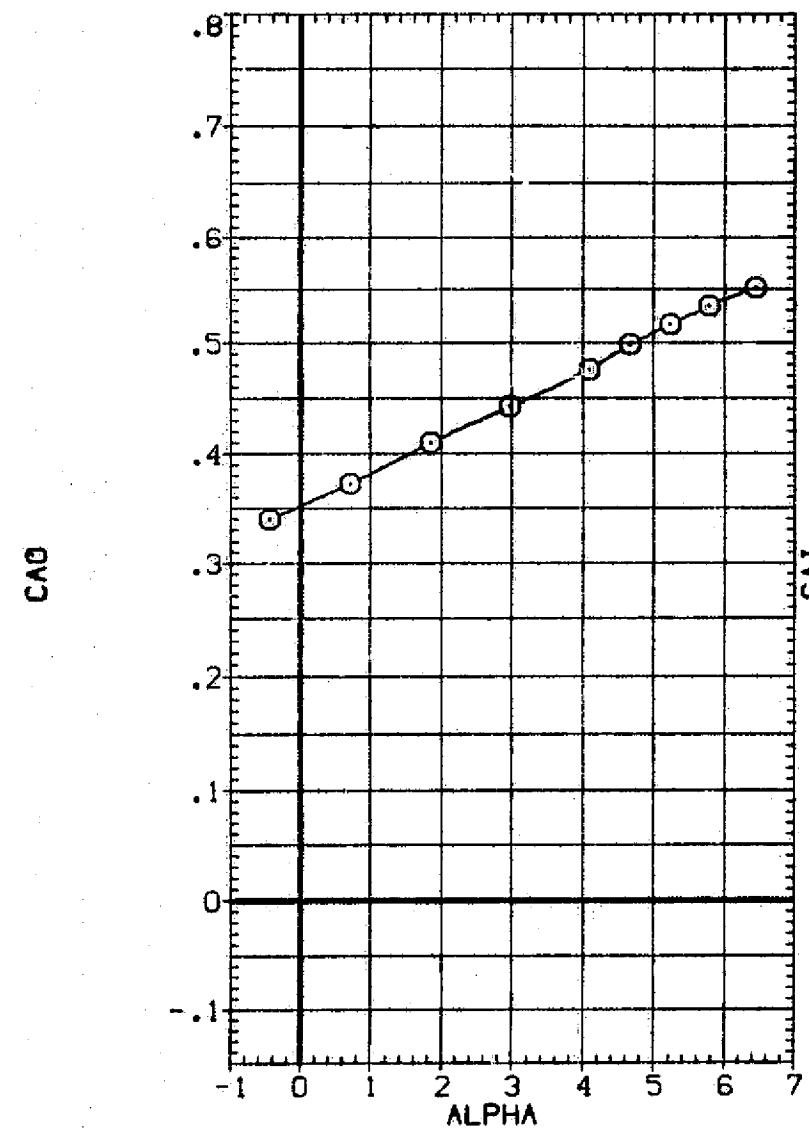


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CEJMACH = 1.17

PAGE 180

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(ZAP025)  W B N1 N1
 (RAP026)  DATA NOT AVAILABLE
 (RAP027)  DATA NOT AVAILABLE
 (RAP036)  DATA NOT AVAILABLE
 (RAP037)  DATA NOT AVAILABLE

X-INBO	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

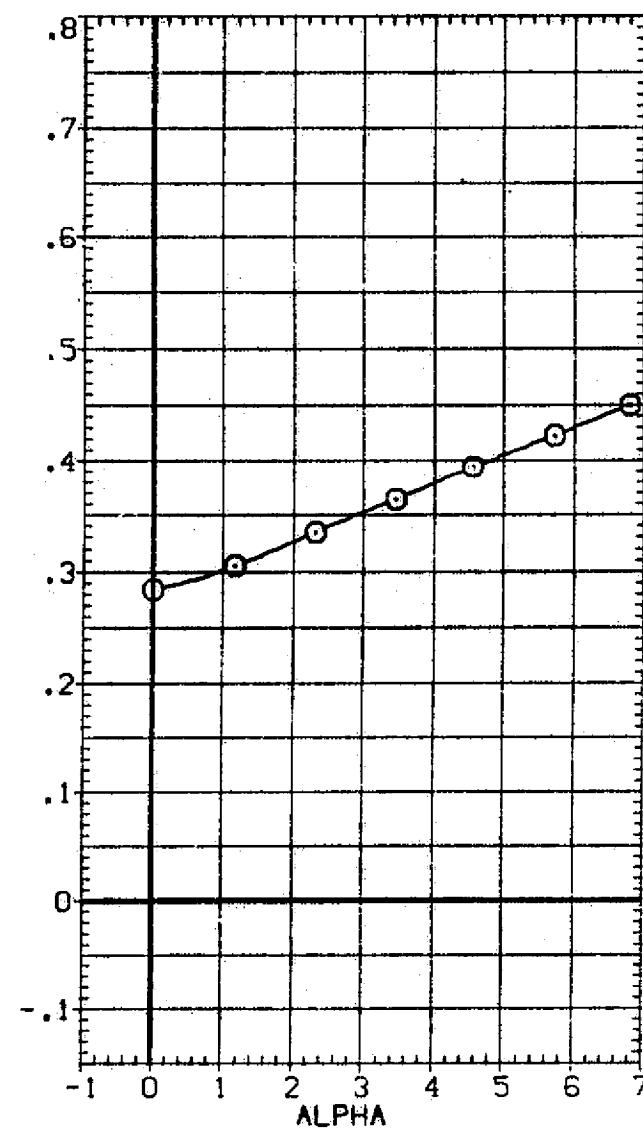
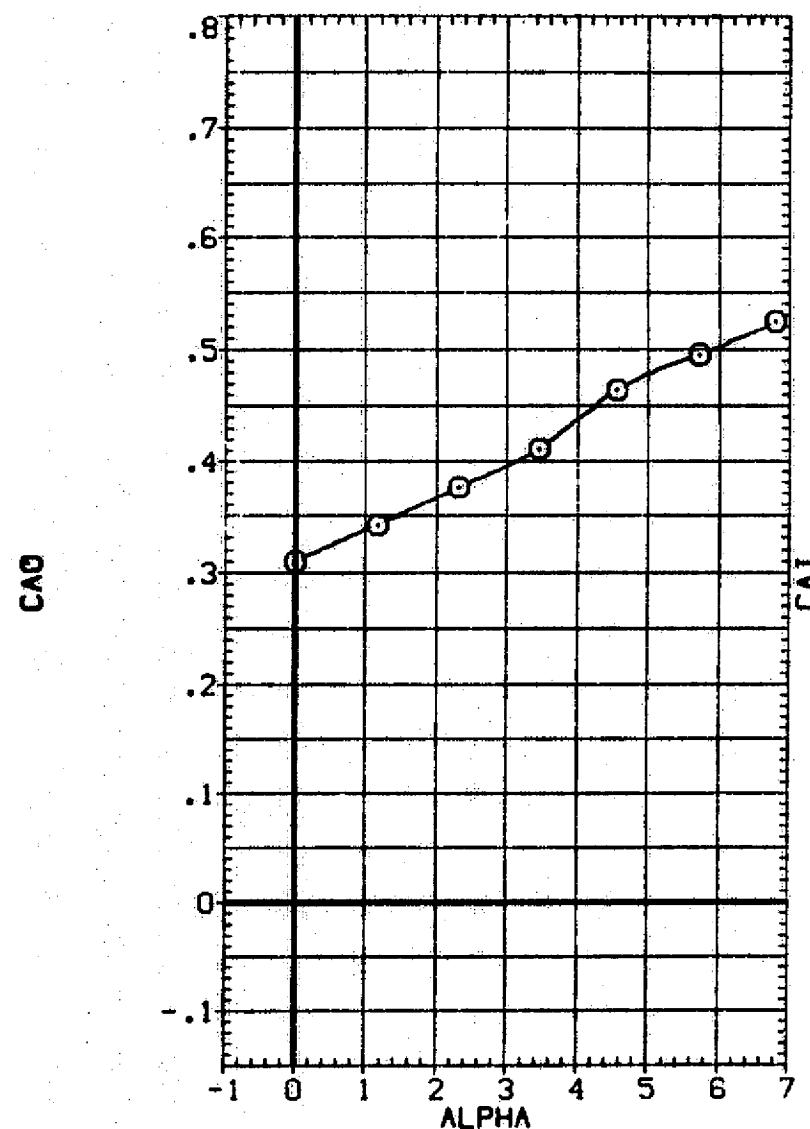


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[ZAP025]	○	W B N1 N1
[RAP026]	□	W B N1 N1
[RAP027]	◇	W B N1 N1
[RAP028]	△	W B N2 N2
[RAP037]	△	W B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

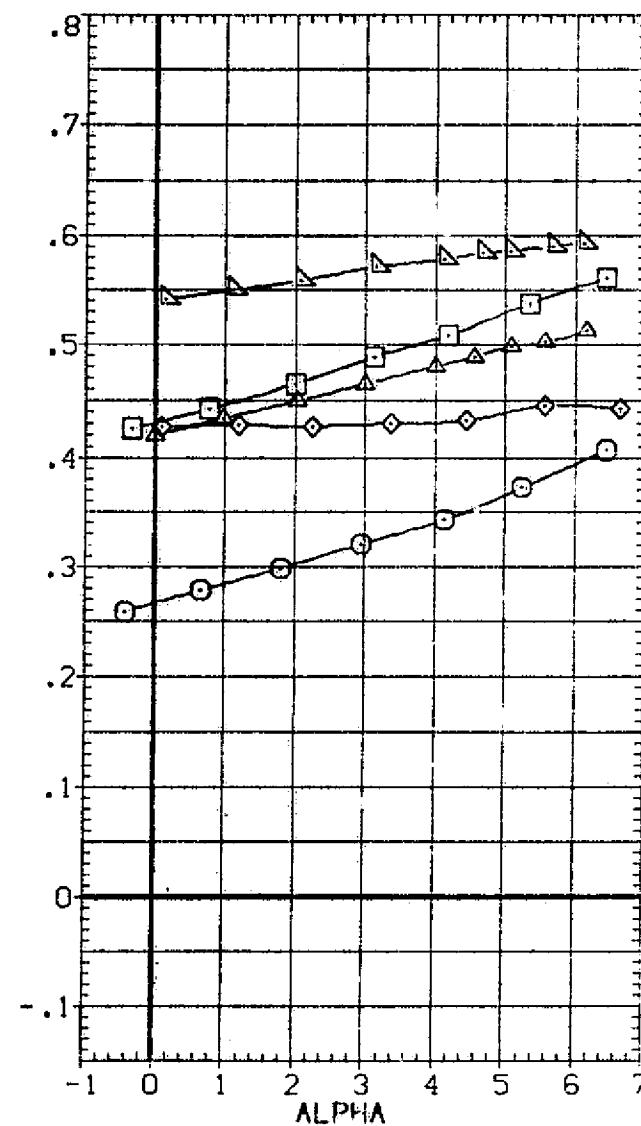
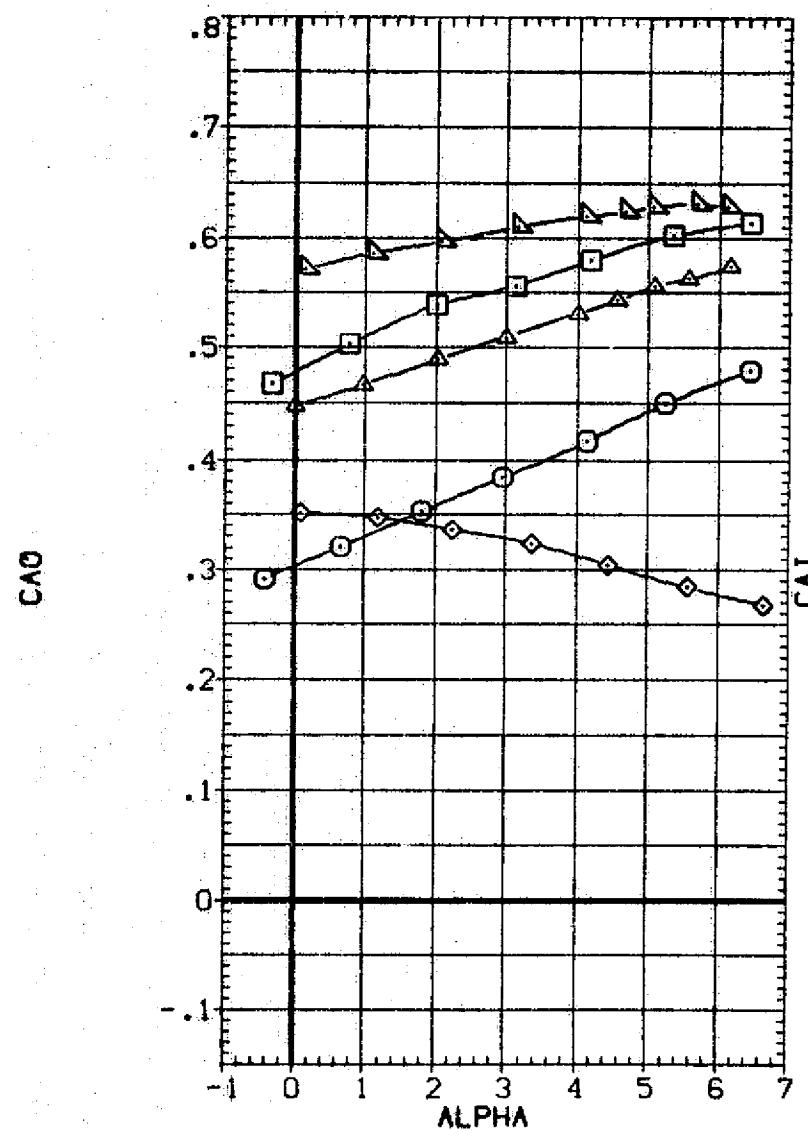


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CGMACH = 1.40

PAGE 182

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)  W B NI NI

(BAP026)  DATA NOT AVAILABLE

(BAP027)  DATA NOT AVAILABLE

(BAP036)  DATA NOT AVAILABLE

(BAP037)  DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

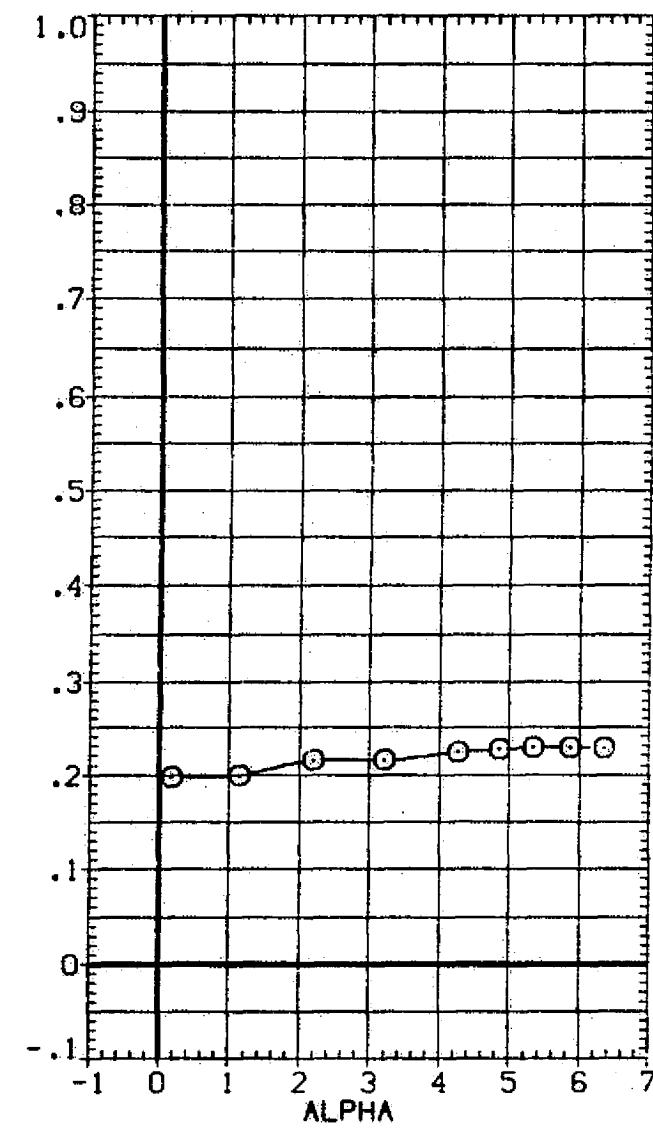
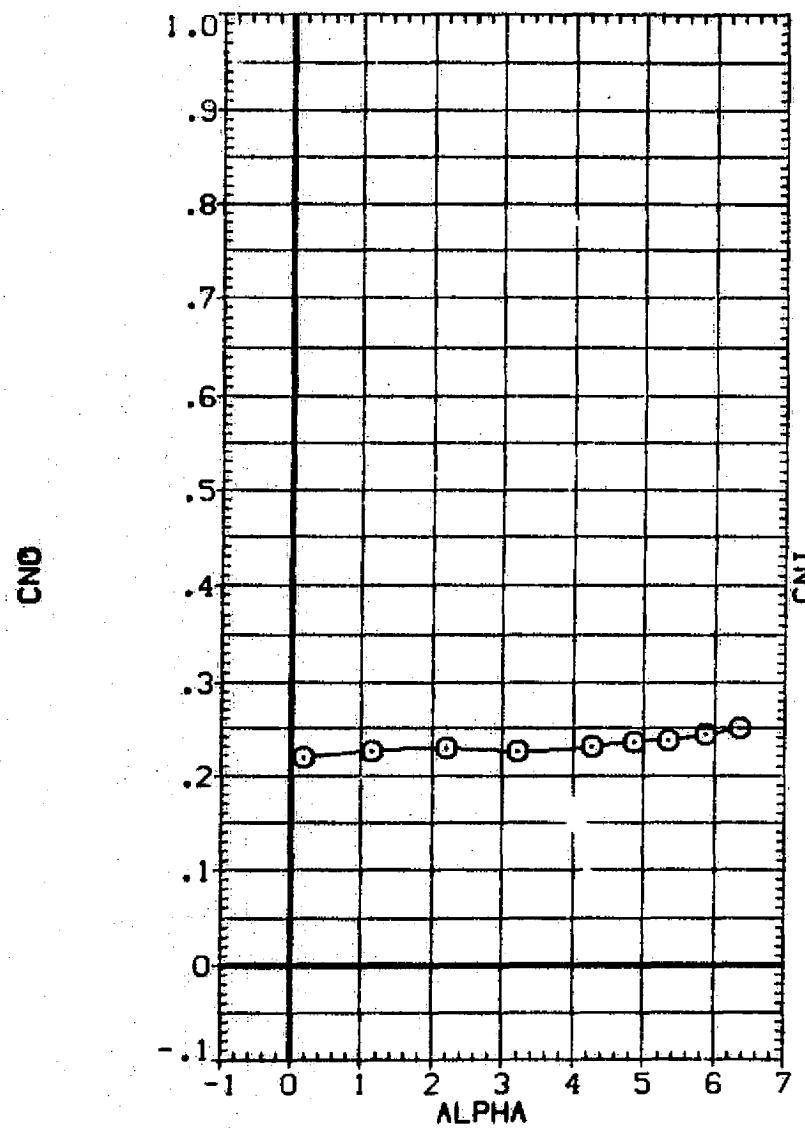


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(A) MACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	W B N1 N1
(BAP026)	□	W B N1 N1
(BAP027)	◇	W B N1 N1
(BAP036)	△	W B N2 N2
(BAP037)	▽	W B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

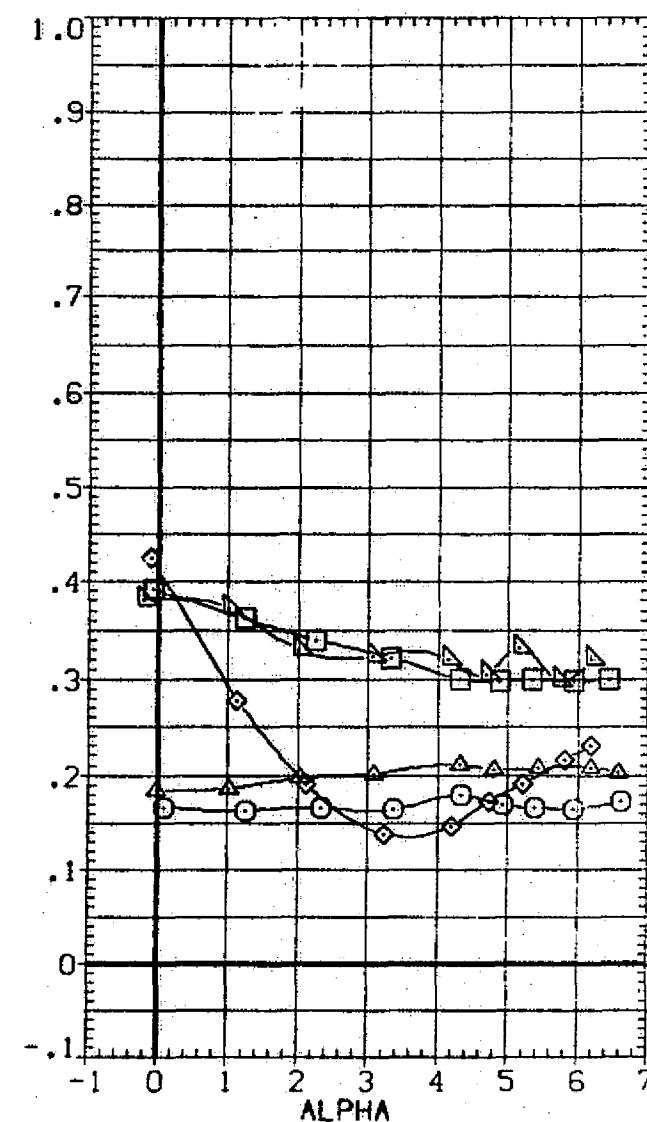
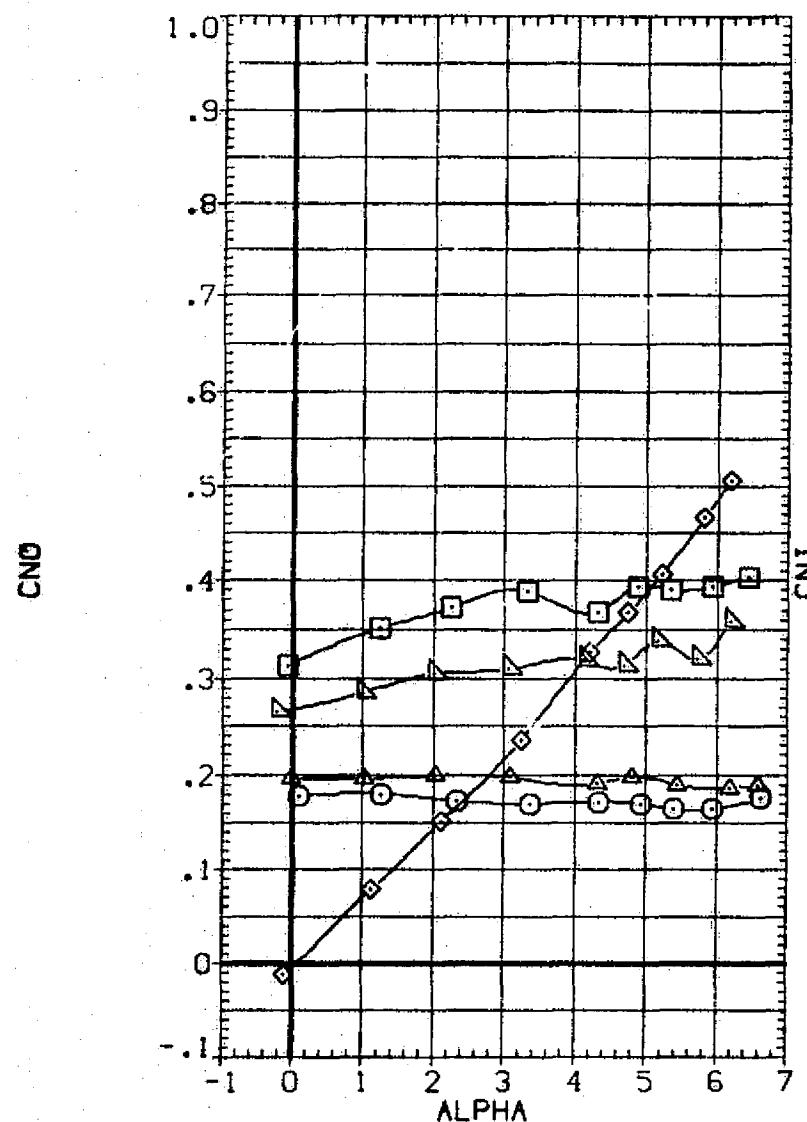


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

PAGE 184

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	○	W B N1 N1
(DAP026)	○	DATA NOT AVAILABLE
(DAP027)	○	DATA NOT AVAILABLE
(DAP036)	△	DATA NOT AVAILABLE
(DAP037)	△	DATA NOT AVAILABLE

X-1IN0	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

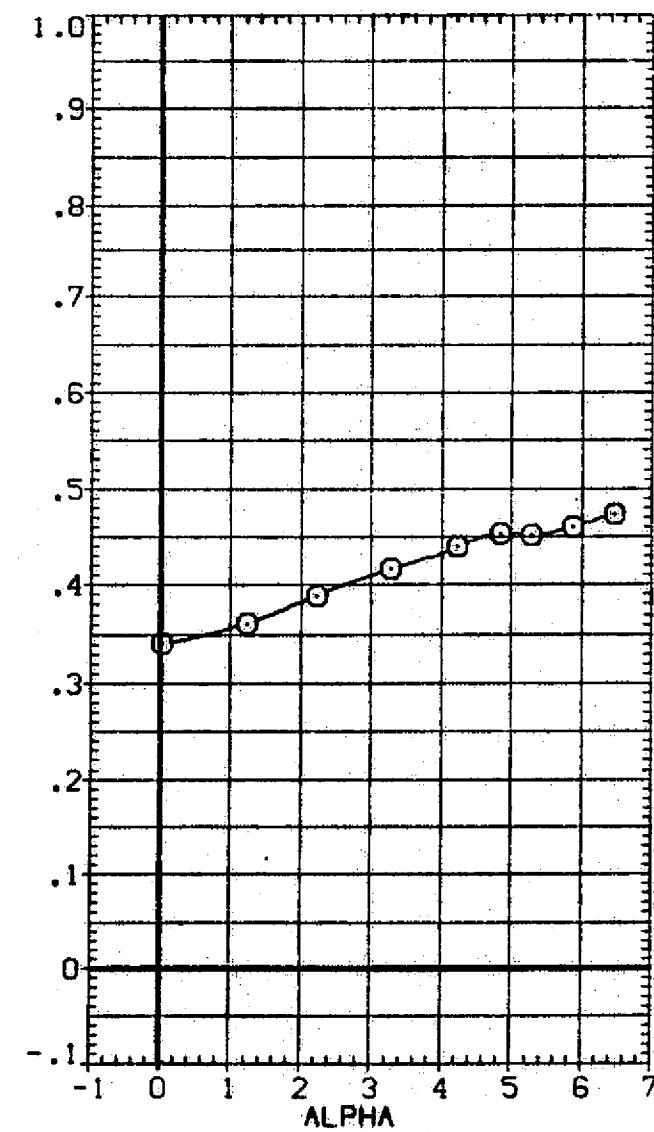
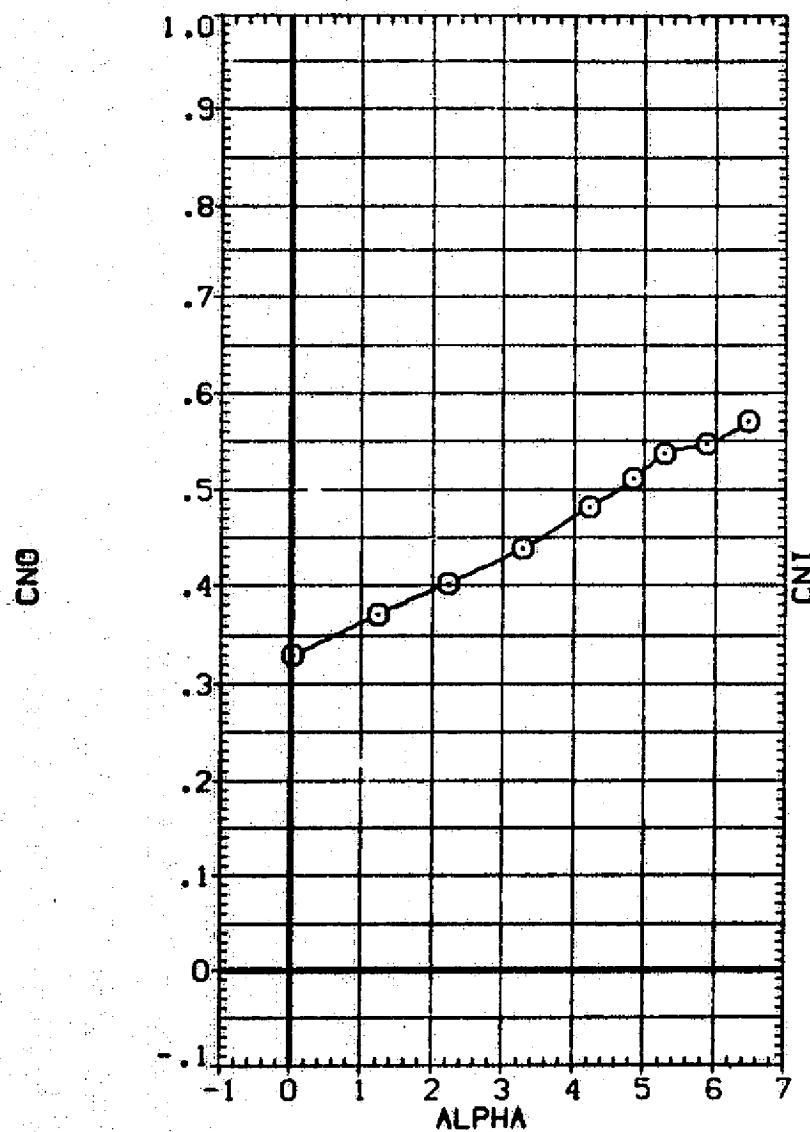


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	W B NI NI
(BAP026)	□	W B NI NI
(BAP027)	△	W B NI NI
(BAP036)	○	W B N2 N2
(BAP037)	△	W B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
18.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

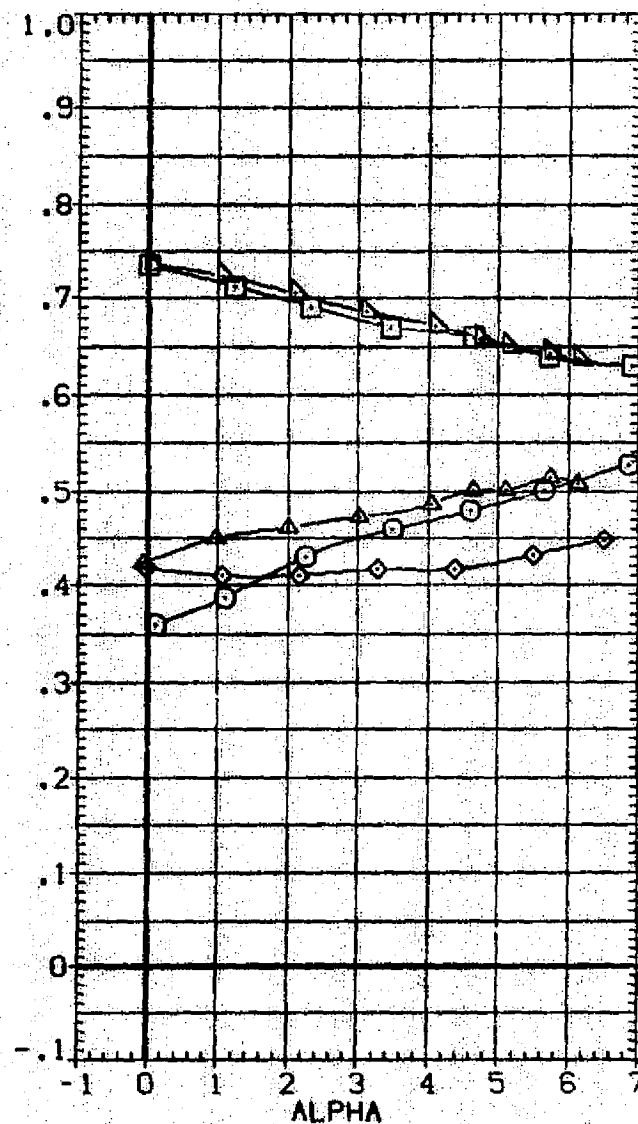
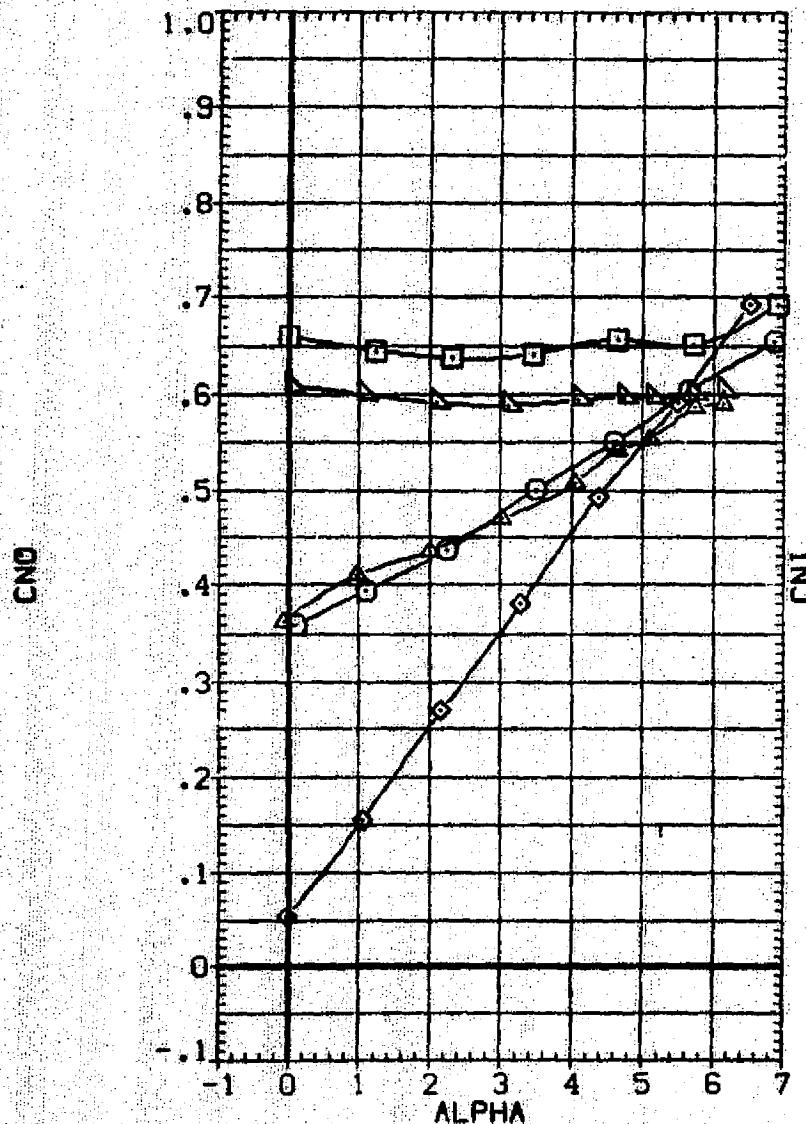


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

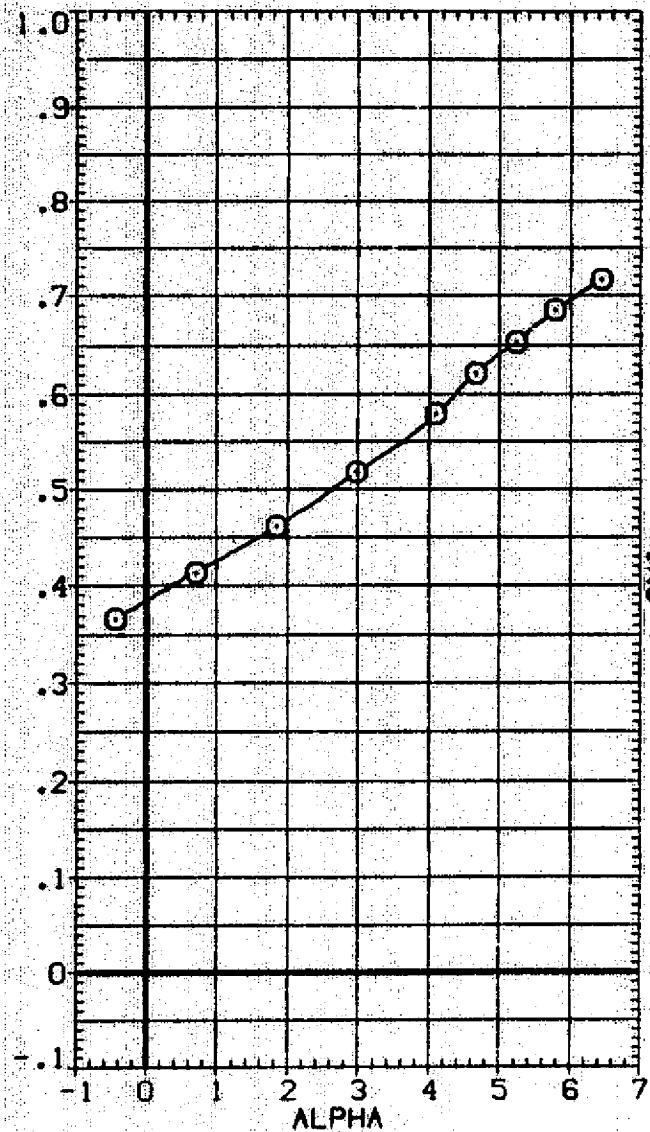
(D)MACH = 1.15

PAGE 186

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DAP025	W-B NI NI
DAP026	DATA NOT AVAILABLE
DAP027	DATA NOT AVAILABLE
DAP036	DATA NOT AVAILABLE
DAP037	DATA NOT AVAILABLE

CN0



CN1

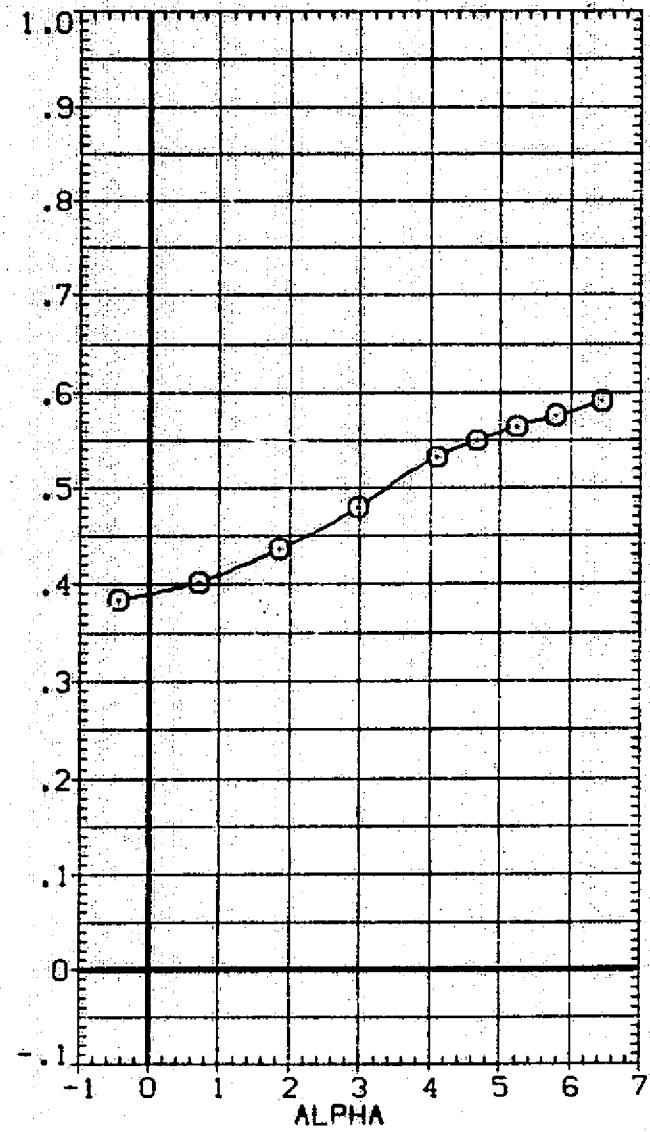


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 187

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025) □ V-B-NI, NI
 (BAP026) □ DATA NOT AVAILABLE
 (BAP027) □ DATA NOT AVAILABLE
 (BAP036) △ DATA NOT AVAILABLE
 (BAP037) △ DATA NOT AVAILABLE

X-INCH	ZY1/B	ZY0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

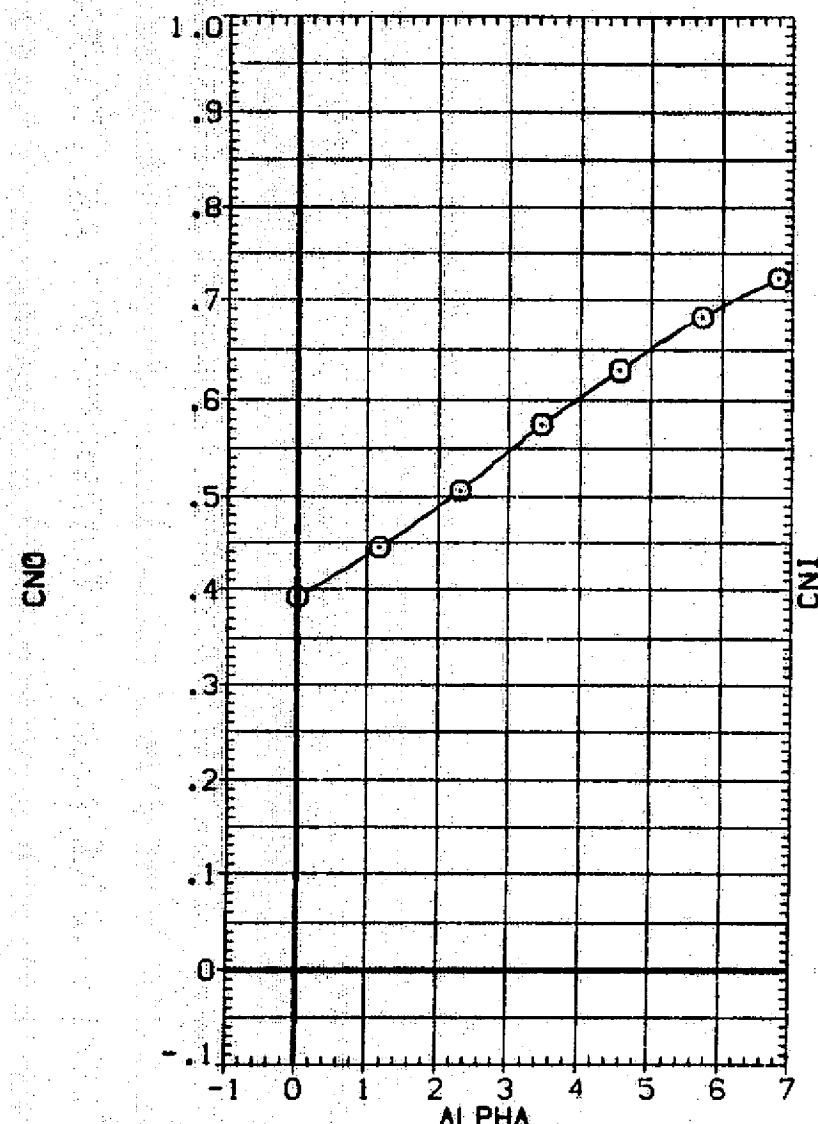
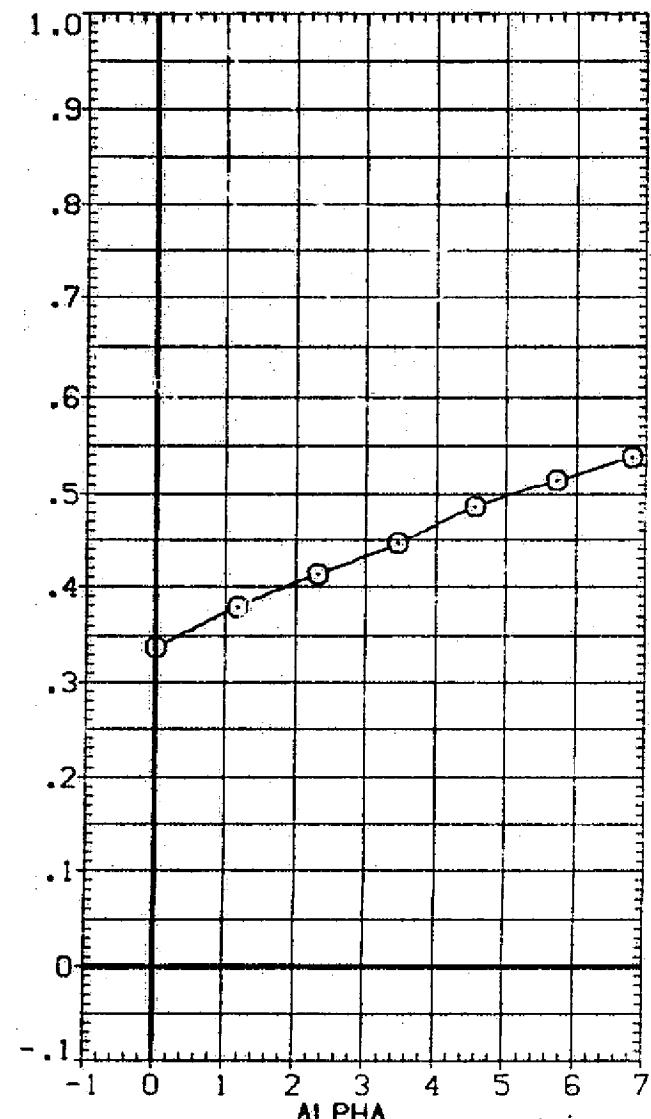


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CFMACH = 1.30



PAGE 188

DATA SET SYMBOL CONFIGURATION DESCRIPTION

BAP025	○	W B N1 N1
BAP026	□	W B N1 N1
BAP027	△	W B N1 N1
BAP036	△	W B N2 N2
BAP037	□	W B N2 N2

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

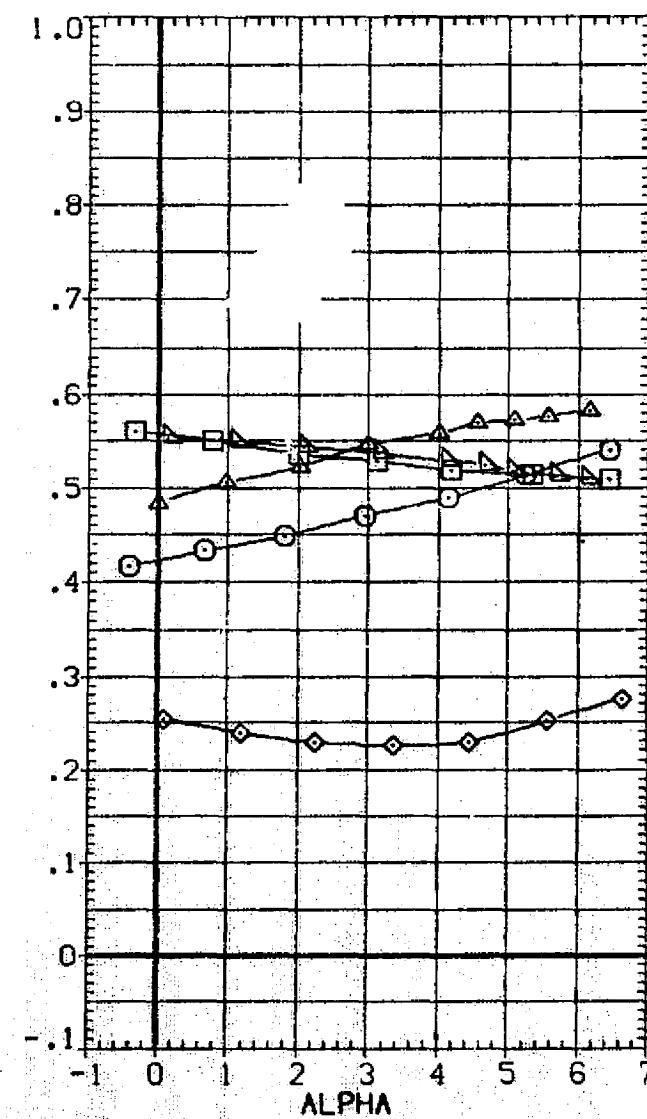
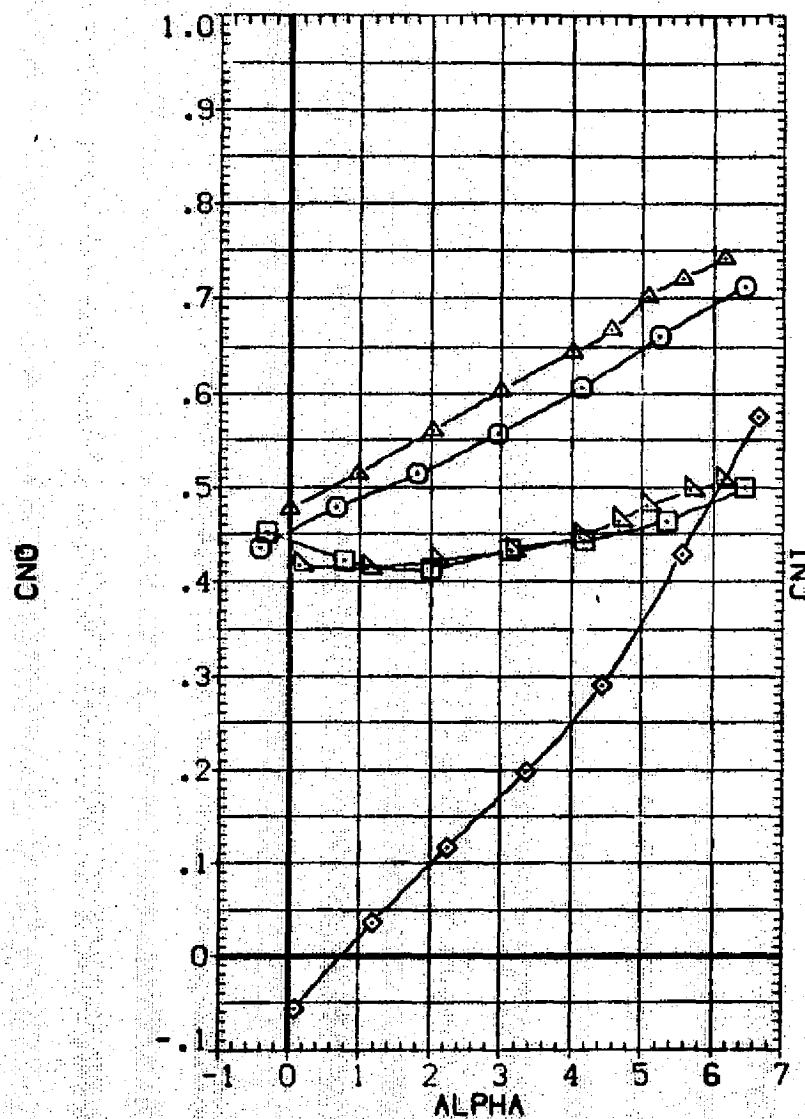


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 189

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)  V B NI NI
 (BAP026)  DATA NOT AVAILABLE
 (BAP027)  DATA NOT AVAILABLE
 (BAP036)  DATA NOT AVAILABLE
 (BAP037)  DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

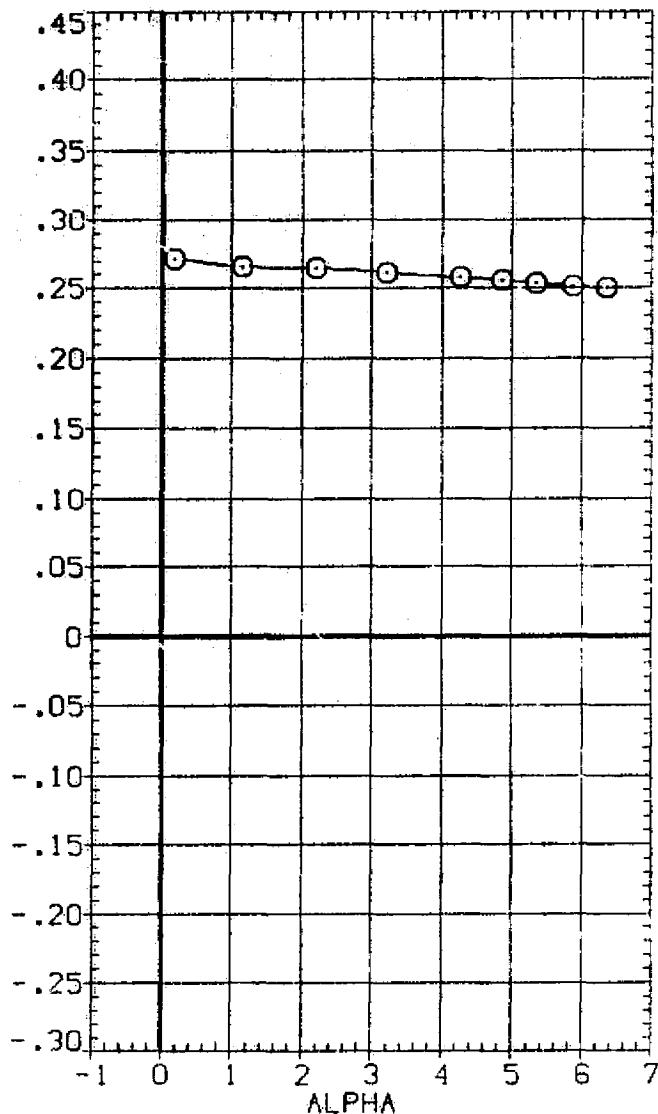
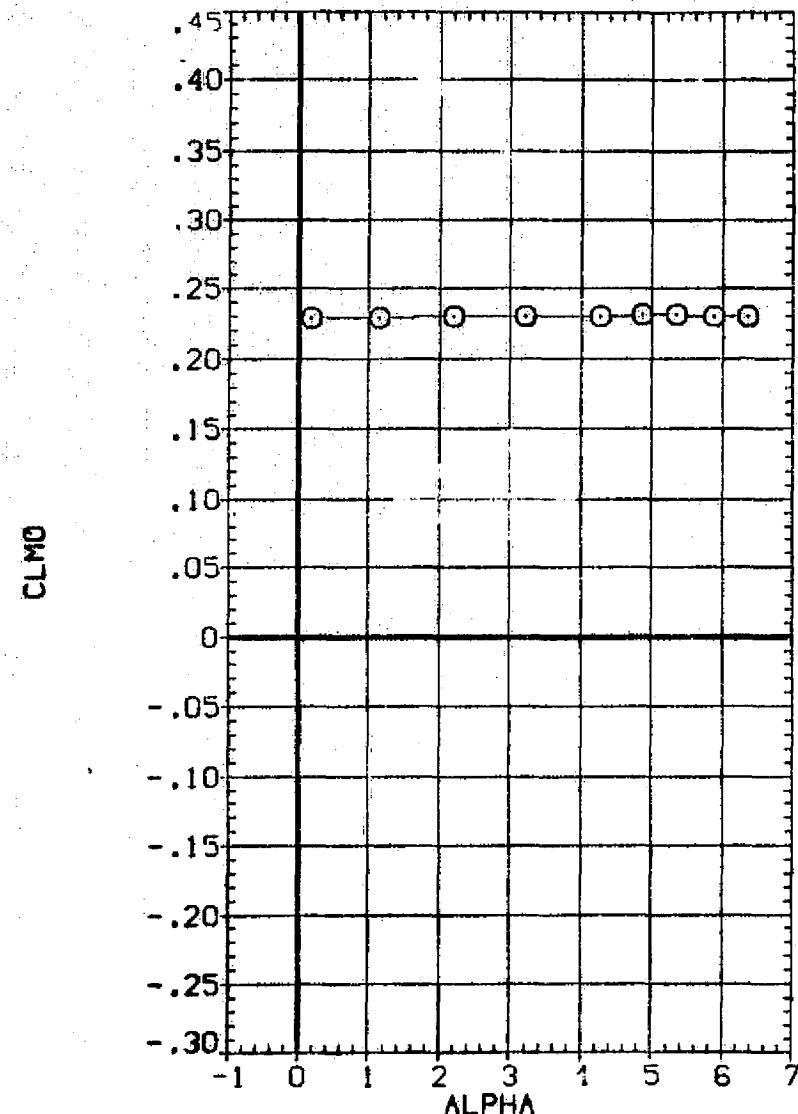


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CADMACH = .90

PAGE 190

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	W B N1 N1
(BAP026)	W B N1 N1
(BAP027)	W B N1 N1
(BAP036)	W B N2 N2
(BAP037)	W B N2 N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

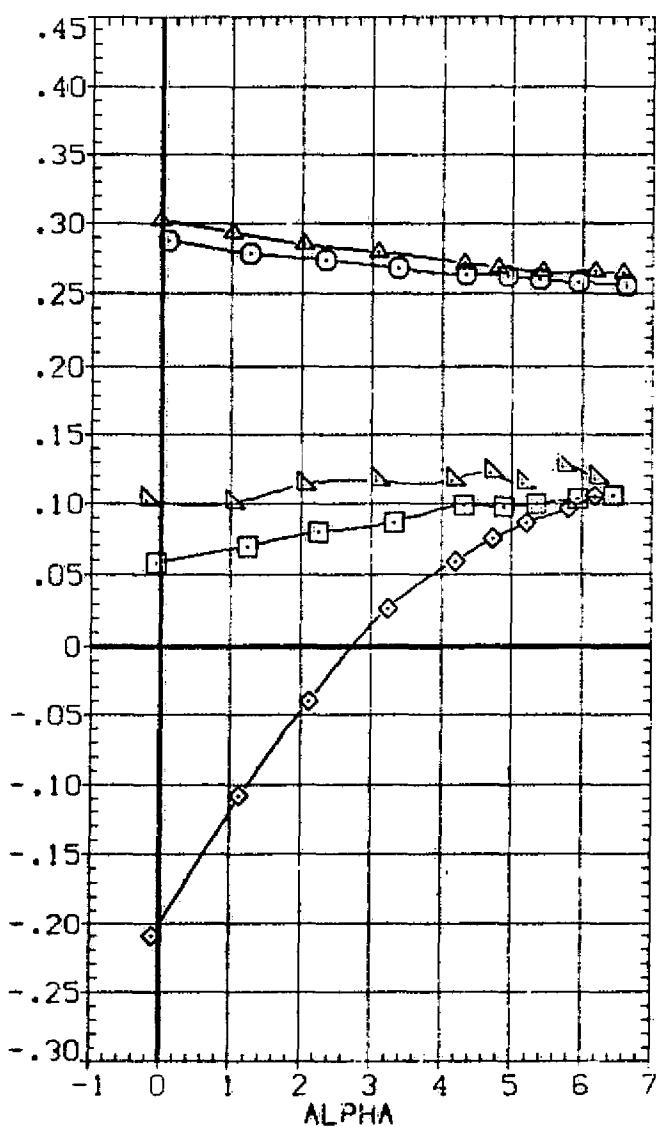
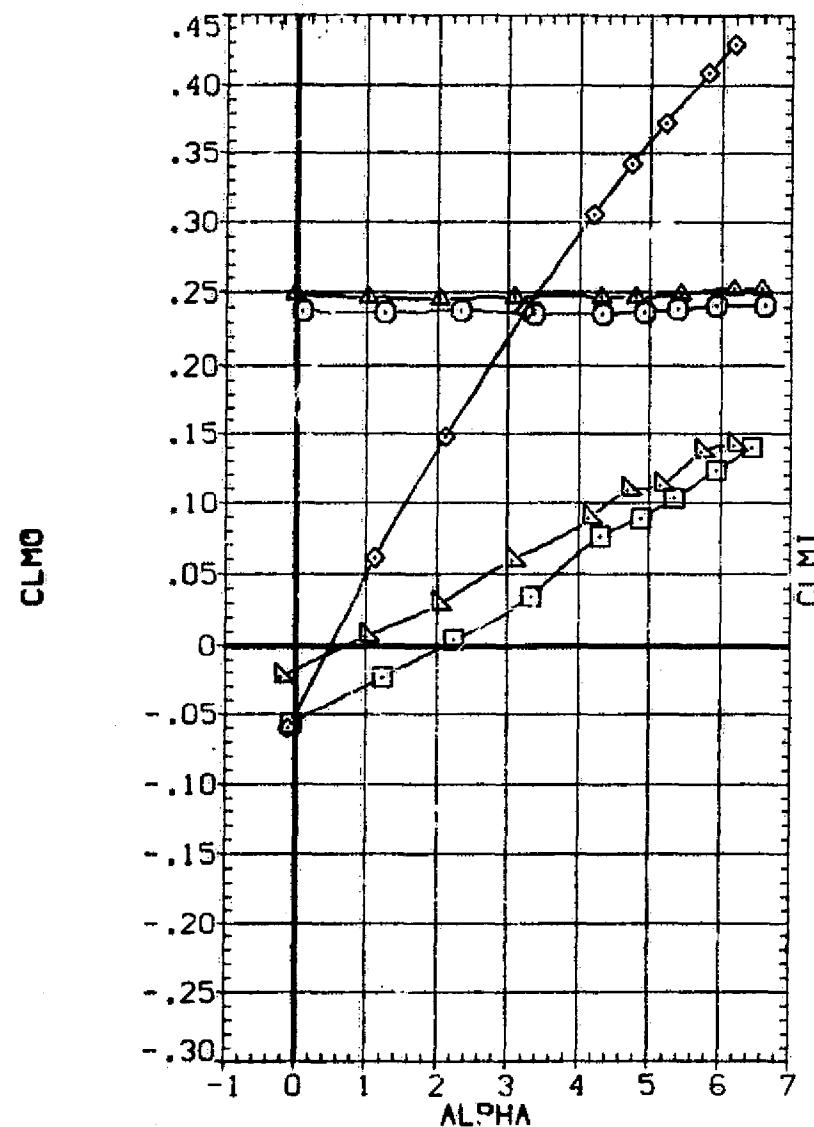


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CBMACH = .98

PAGE 191

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025) O W B N1 N1
 (DAP026) □ DATA NOT AVAILABLE
 (DAP027) × DATA NOT AVAILABLE
 (DAP036) △ DATA NOT AVAILABLE
 (DAP037) ▽ DATA NOT AVAILABLE

X-INBD	2Y1/B	2Y0/B	Dx
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

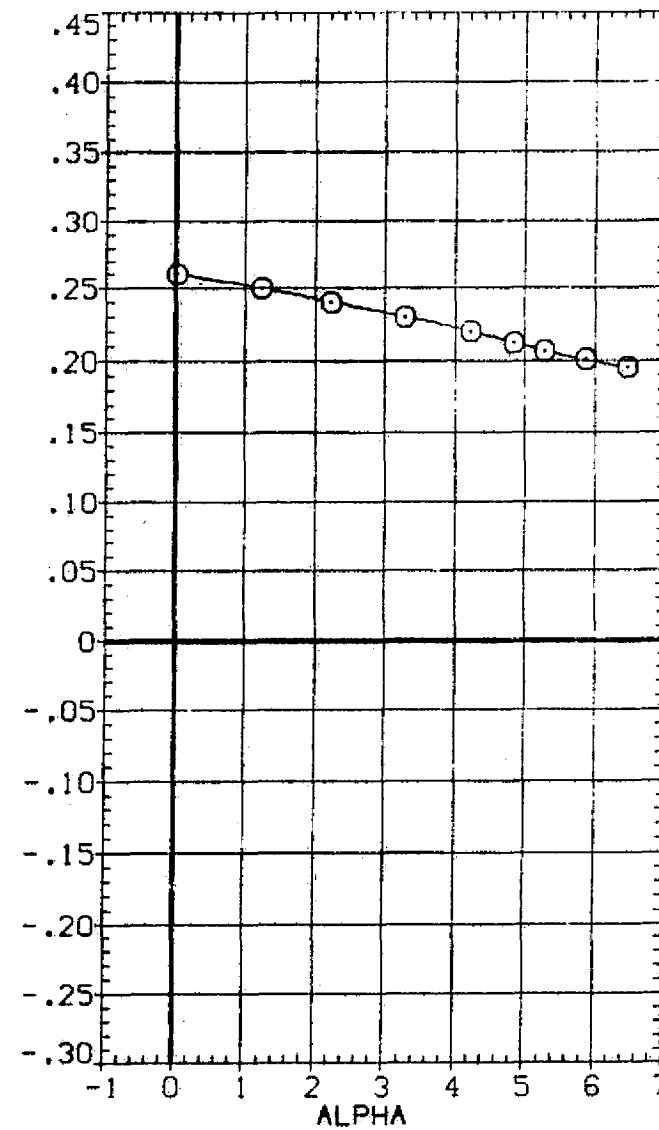
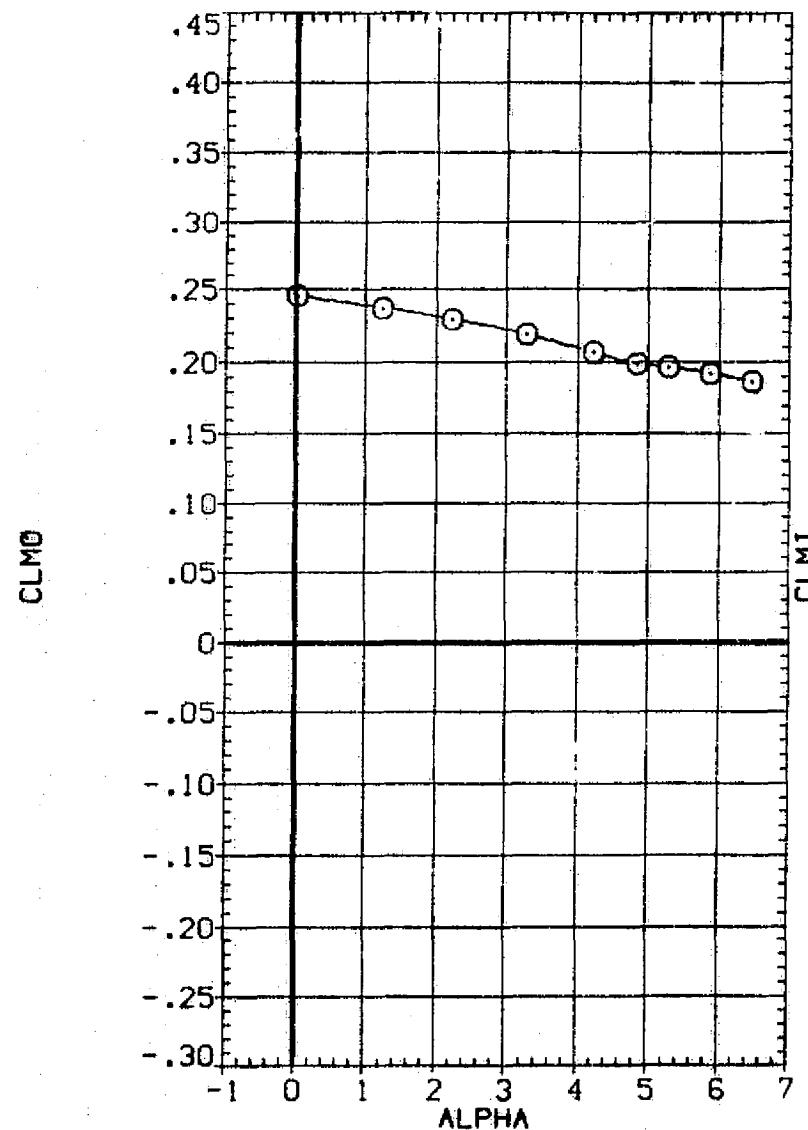


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 192

DATA SET SYMBOL - CONFIGURATION DESCRIPTION

(DAP025)	○	▼ B N1 N1
(BAP026)	□	▼ B N1 N1
(BAP027)	×	▼ B N1 N1
(BAP036)	×	▼ B N2 N2
(BAP037)	△	▼ B N2 N2

X-INCH	2Y1/B	2Y0/B	Bx
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

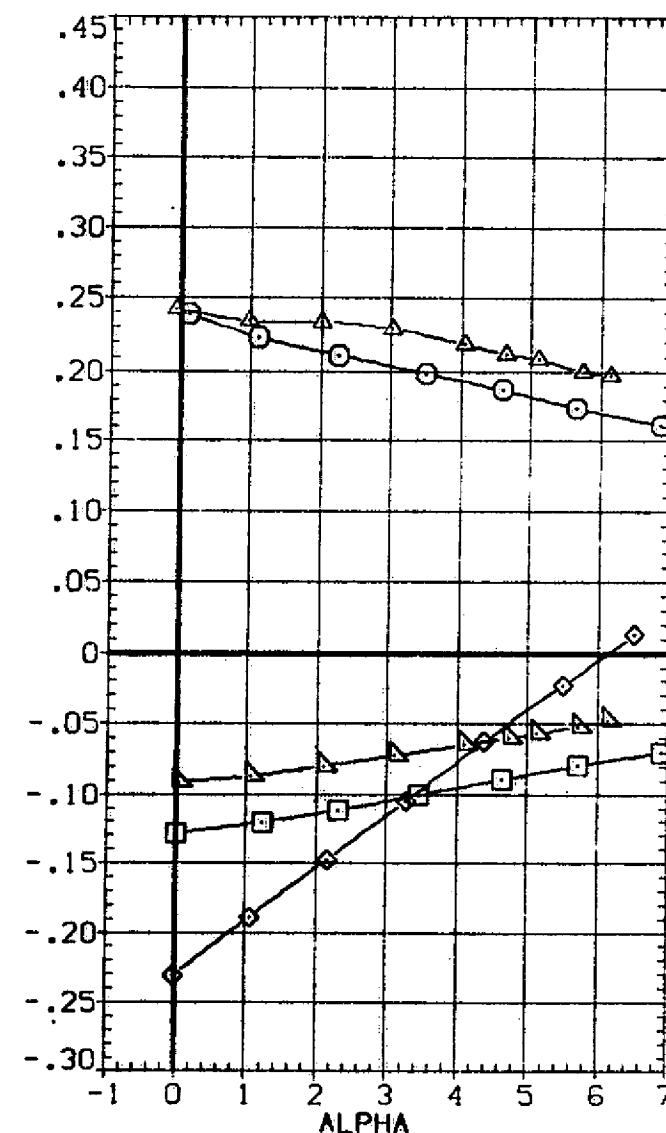
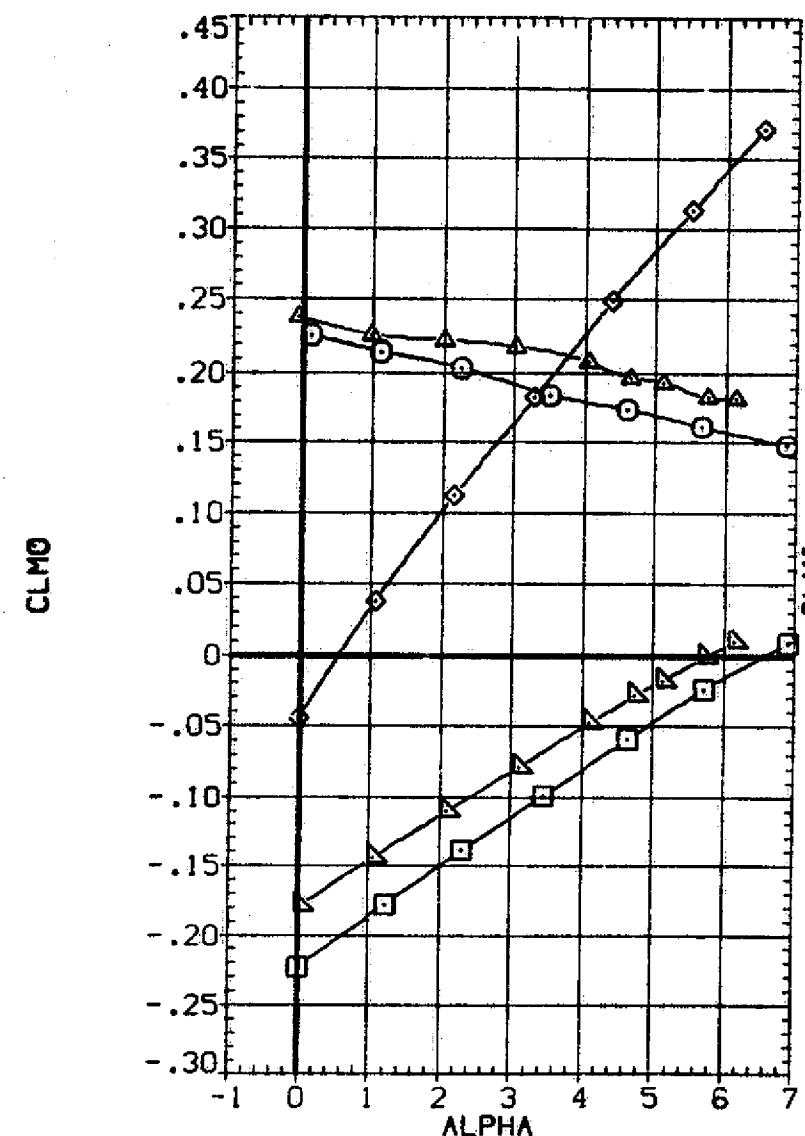


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CDMACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025) ○ W B N1 N1
 (BAP026) □ DATA NOT AVAILABLE
 (BAP027) △ DATA NOT AVAILABLE
 (BAP036) ▲ DATA NOT AVAILABLE
 (BAP037) ▽ DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

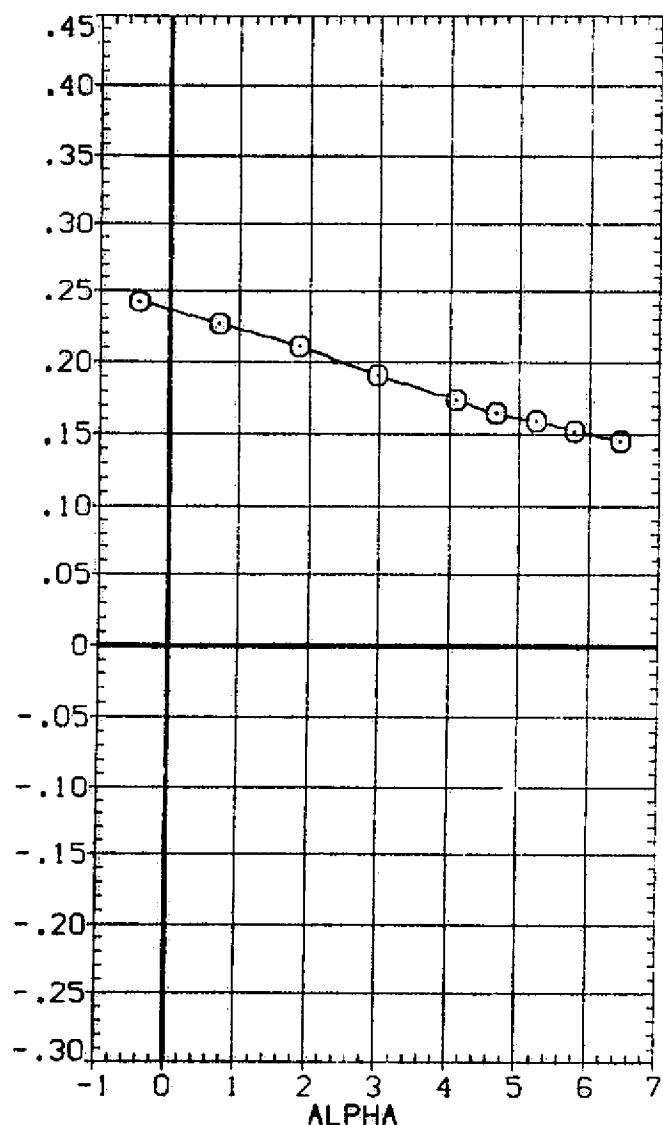
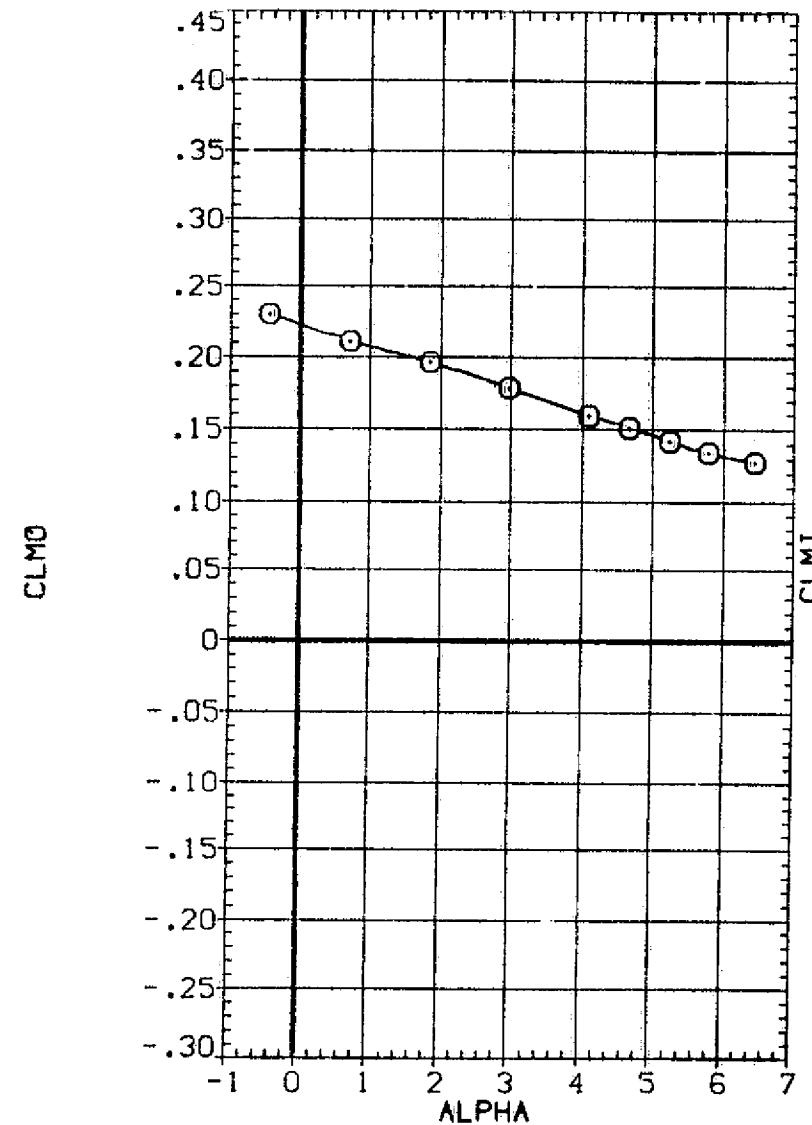


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

PAGE 194

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	W B N1 N1
(BAP026)	□	DATA NOT AVAILABLE
(BAP027)	◇	DATA NOT AVAILABLE
(BAP036)	×	DATA NOT AVAILABLE
(BAP037)	△	DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

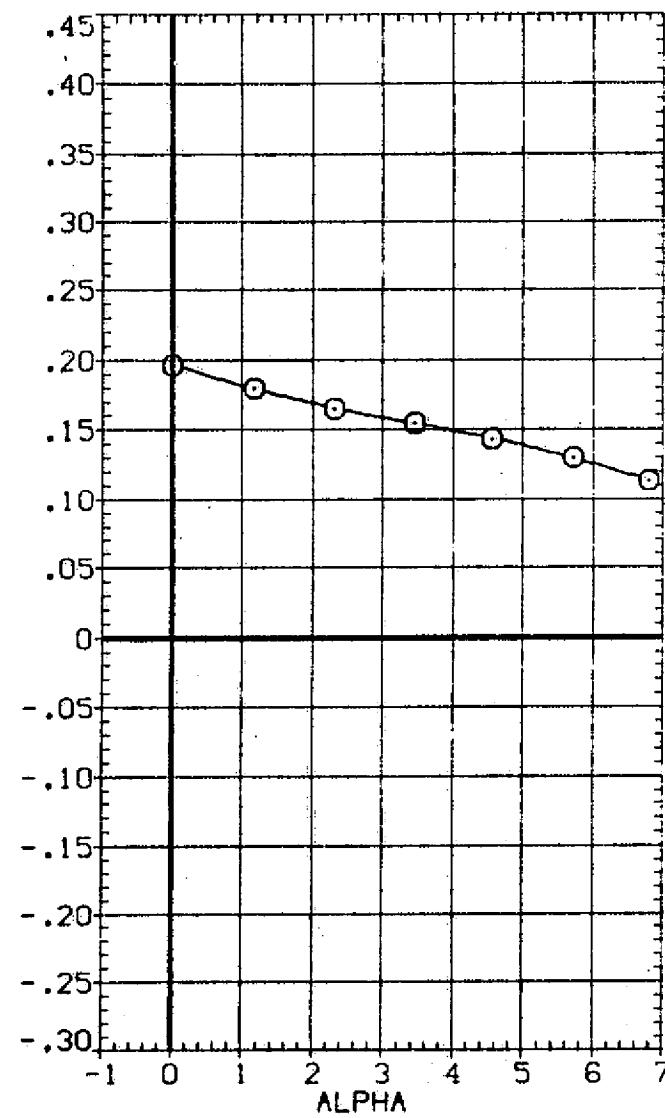
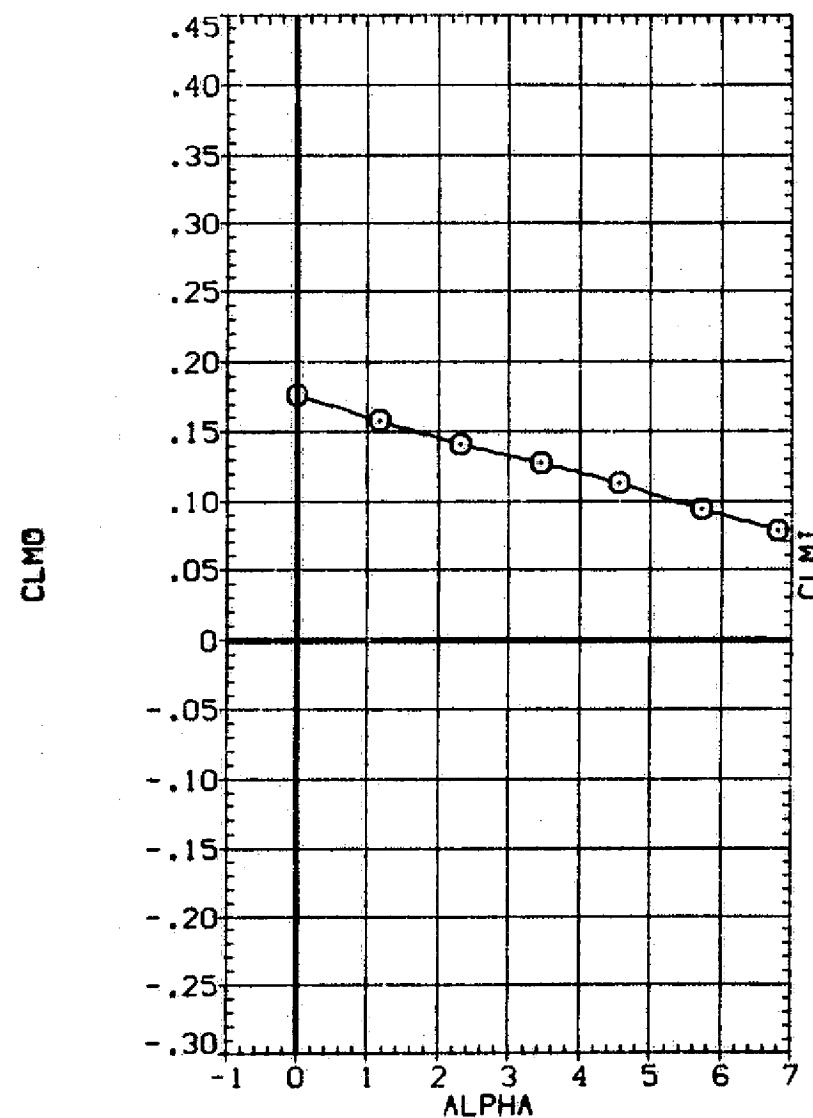


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	○	W B N1 N1
(BAP026)	□	W B N1 N1
(BAP027)	×	W B N1 N1
(BAP036)	△	W B N2 N2
(BAP037)	▷	W B N2 N2

X-1NB0	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

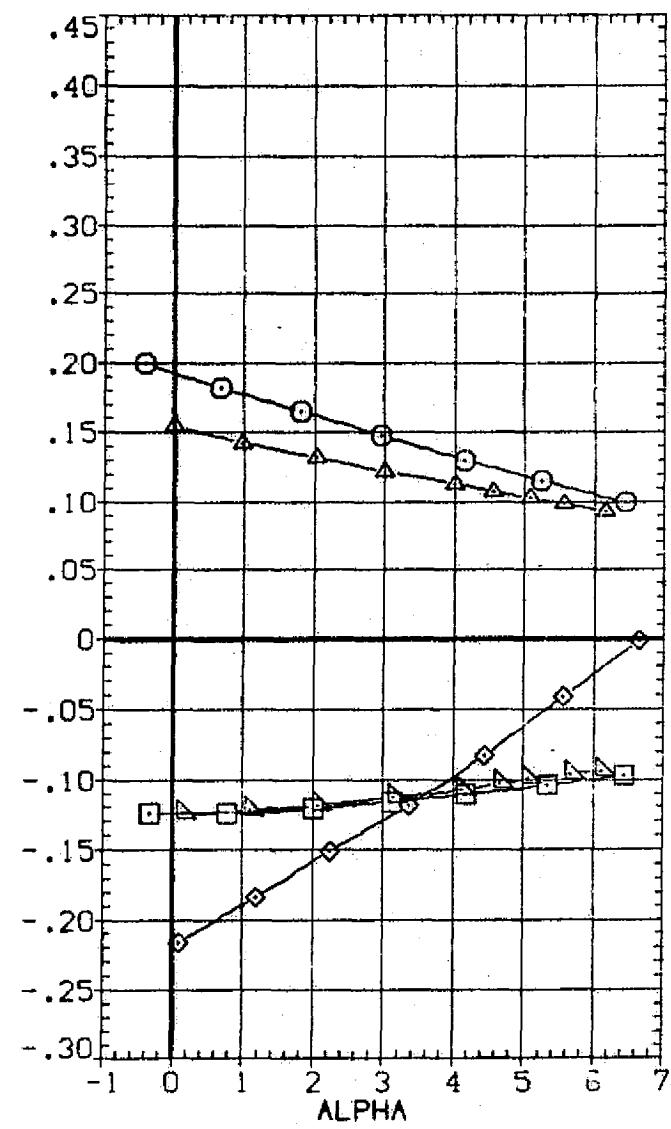
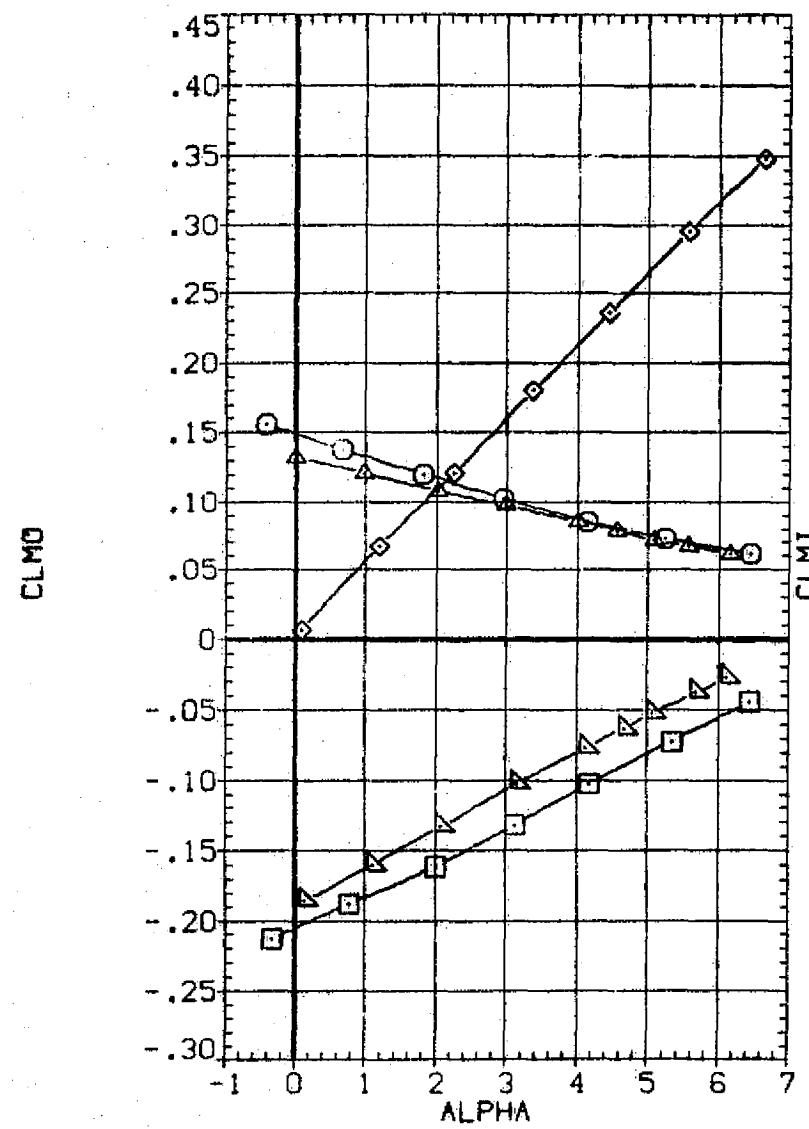


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 196

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	□	W B NI NI
(BAP026)	○	DATA NOT AVAILABLE
(BAP027)	×	DATA NOT AVAILABLE
(BAP036)	△	DATA NOT AVAILABLE
(BAP037)	▽	DATA NOT AVAILABLE

X-INBO	2YI/B	2YD/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.033
48.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

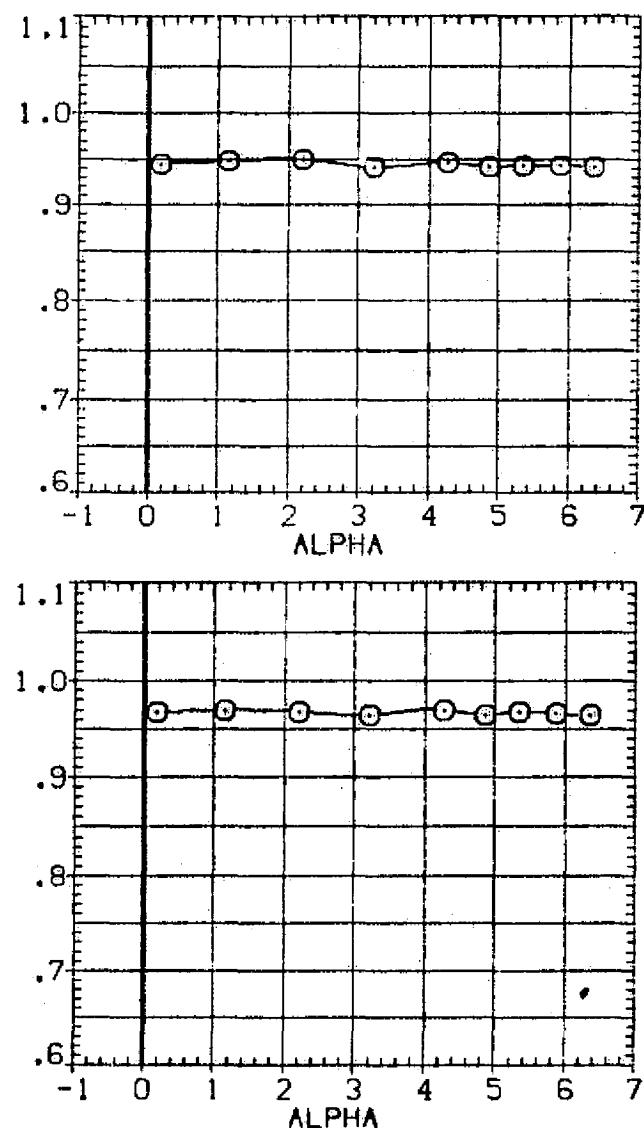
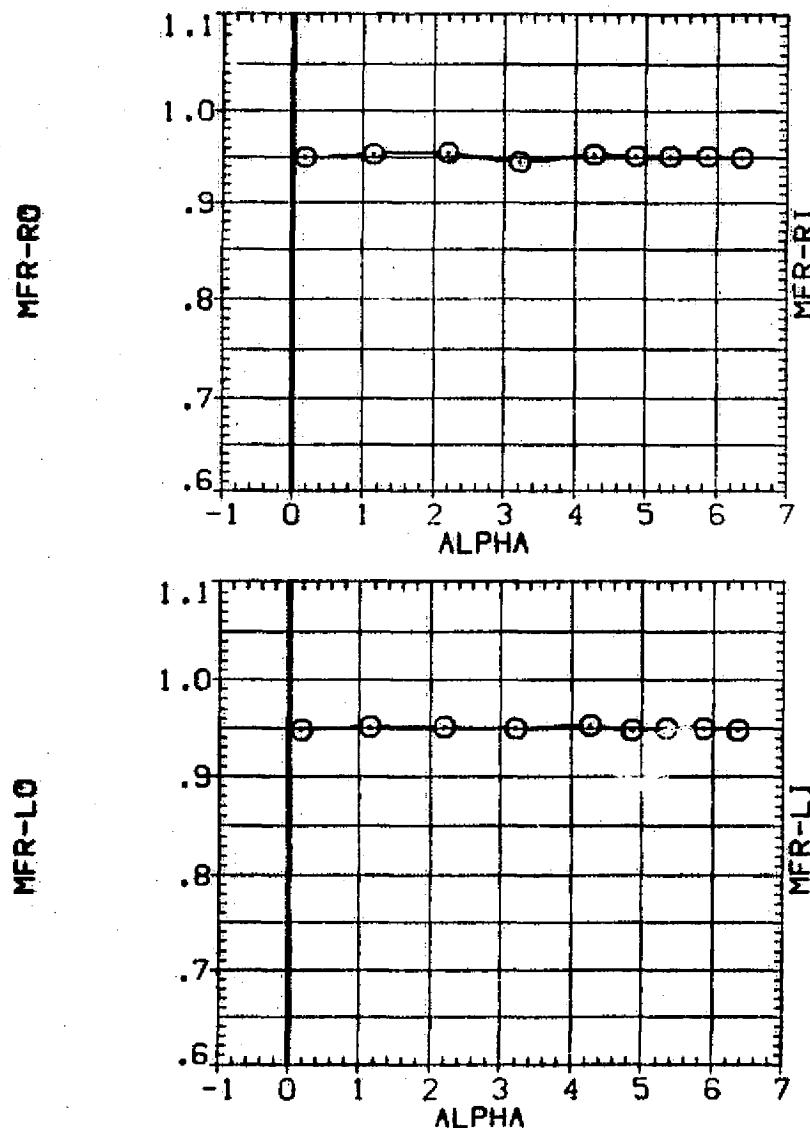


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

C_AMACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	W	B	N1	N1
(BAP026)	W	B	N1	N1
(BAP027)	W	B	N1	N1
(BAP036)	W	B	N2	N2
(BAP037)	W	B	N2	N2

X-INC 2Y1/B 2Y0/B DX

56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

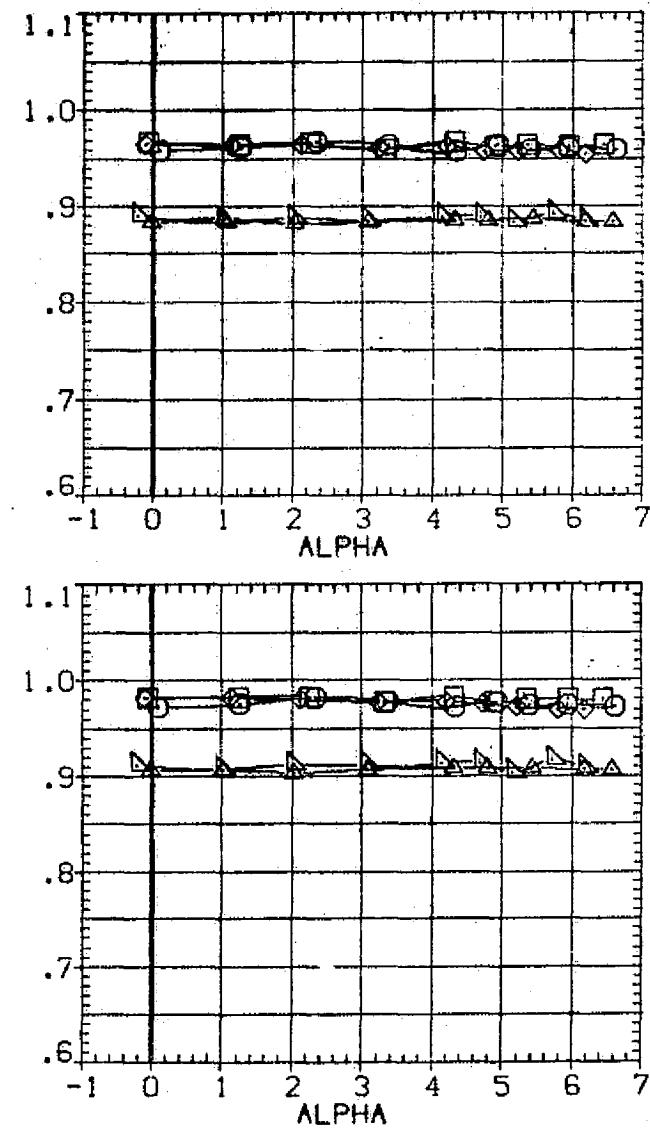
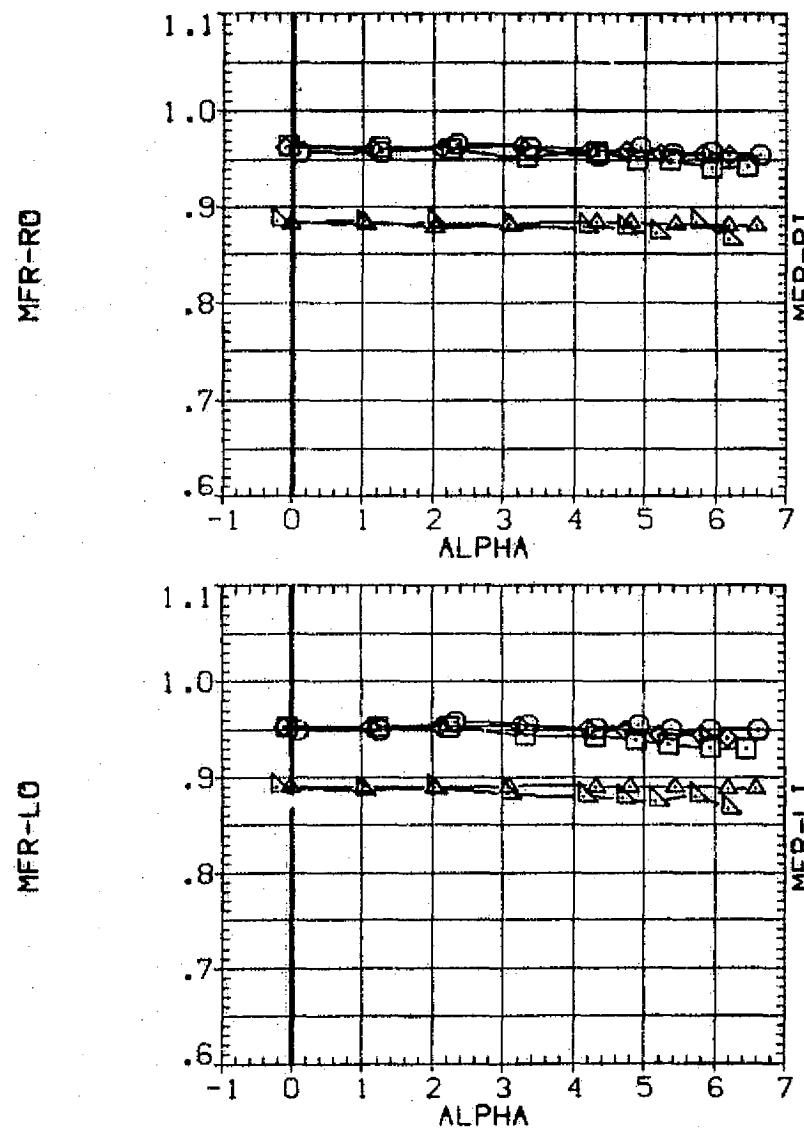


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98

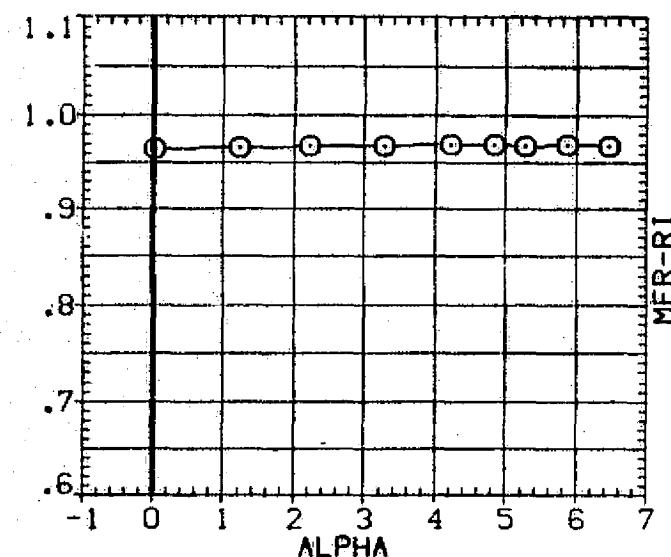
PAGE 198

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	W B N1 N1
(BAP026)	○	DATA NOT AVAILABLE
(BAP027)	○	DATA NOT AVAILABLE
(BAP036)	○	DATA NOT AVAILABLE
(BAP037)	○	DATA NOT AVAILABLE

X-IN60	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

MFR-R0



MFR-L0

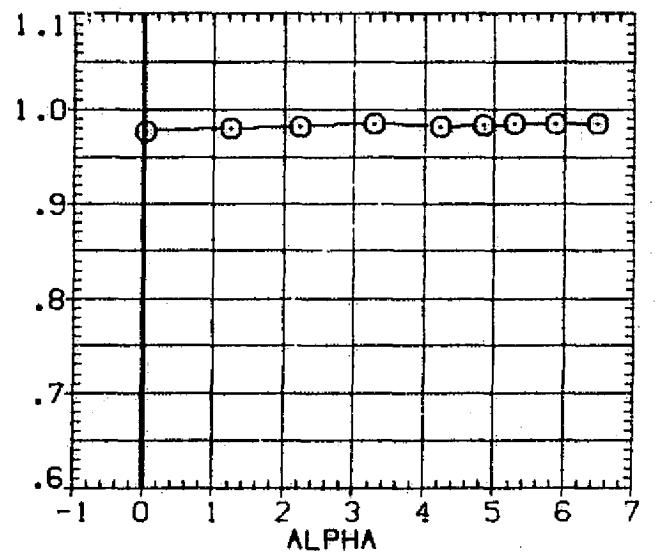
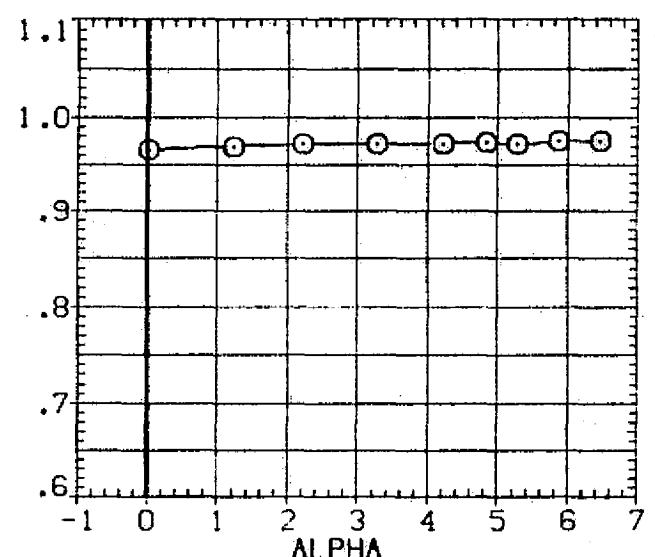
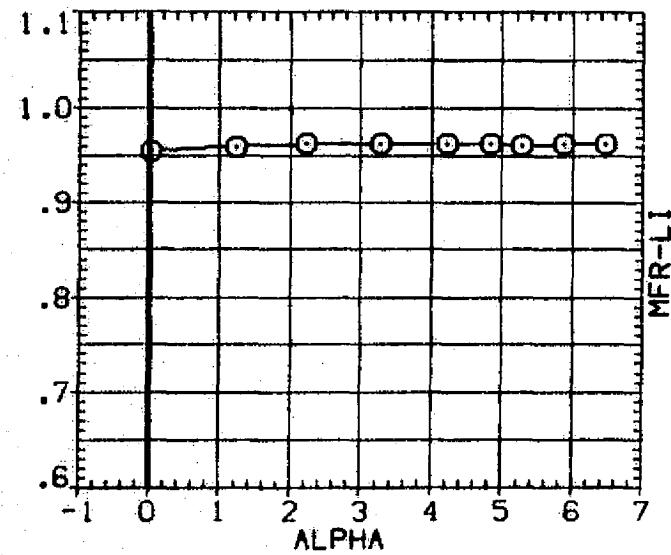


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

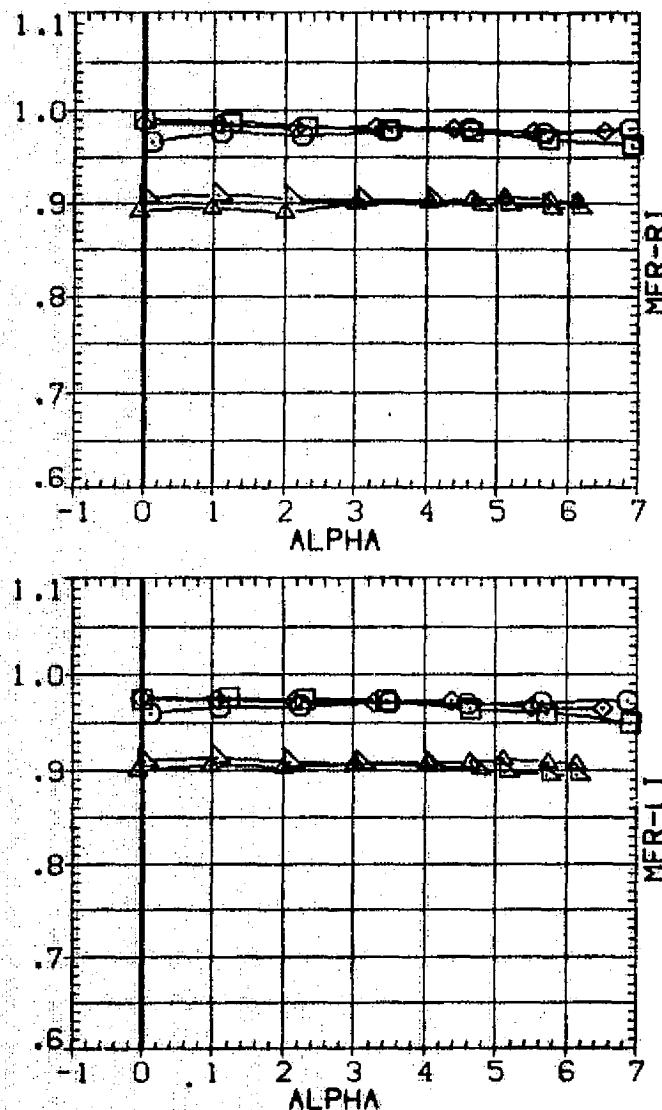
PAGE 199

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)  V B N1 N1
 (DAP026)  V B N1 N1
 (DAP027)  V B N1 N1
 (DAP036)  V B N2 N2
 (DAP037)  V B N2 N2

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

MFR-R0



MFR-L0

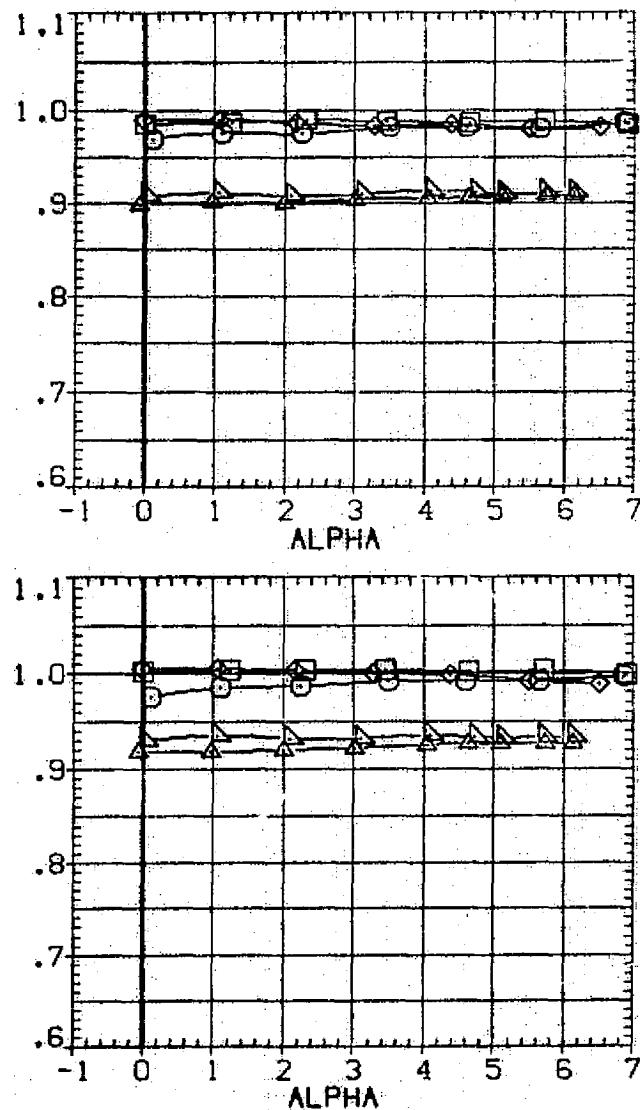


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CDMACH = 1.15

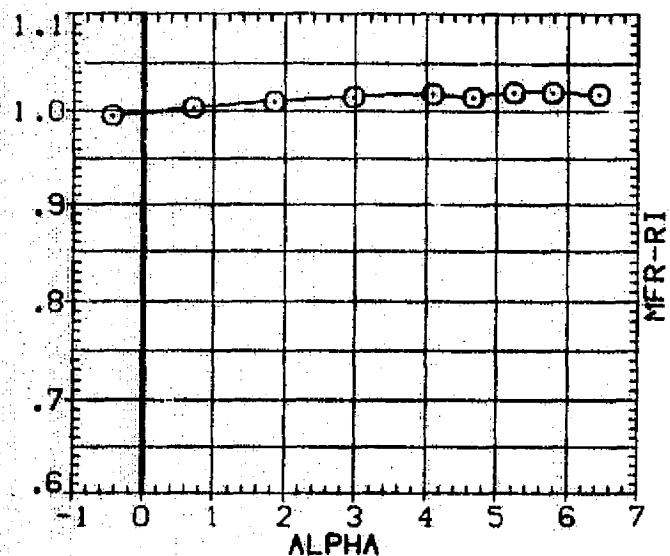
PAGE 200

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	✓ B N1 N1
(BAP026)	DATA NOT AVAILABLE
(BAP027)	DATA NOT AVAILABLE
(BAP036)	DATA NOT AVAILABLE
(BAP037)	DATA NOT AVAILABLE

X-INBD	ZY1/B	ZY0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

MFR-R0



MFR-L0

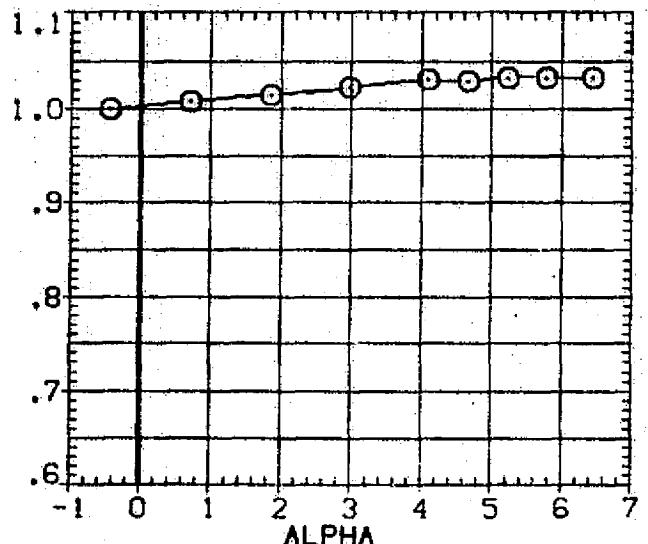
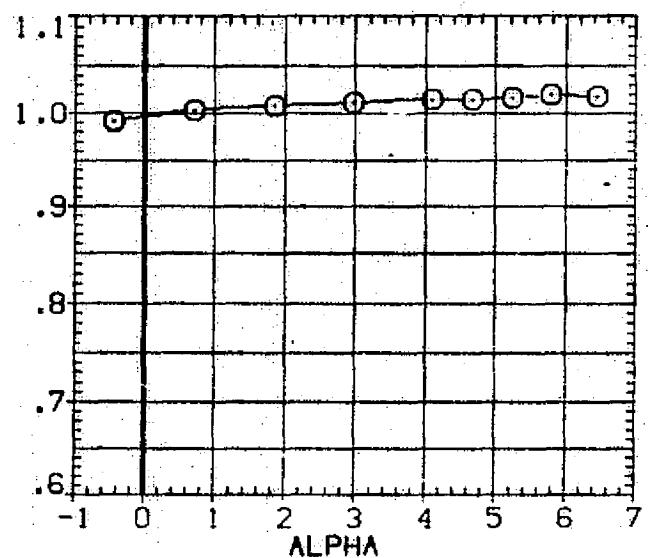
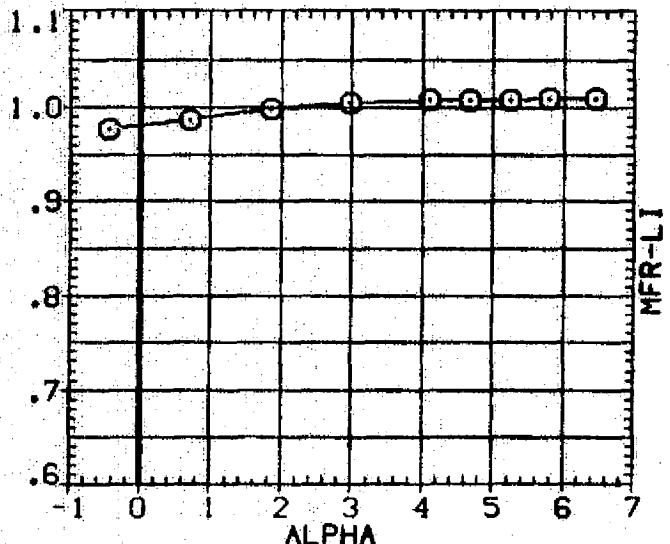


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

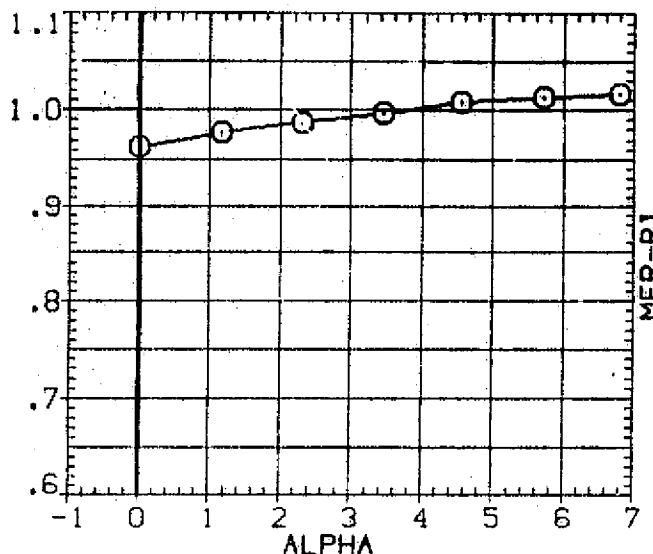
PAGE 201

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)  W B N1 N1
 (DAP026)  DATA NOT AVAILABLE
 (DAP027)  DATA NOT AVAILABLE
 (DAP036)  DATA NOT AVAILABLE
 (DAP037)  DATA NOT AVAILABLE

X-IN80	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

MFR-R0



MFR-L0

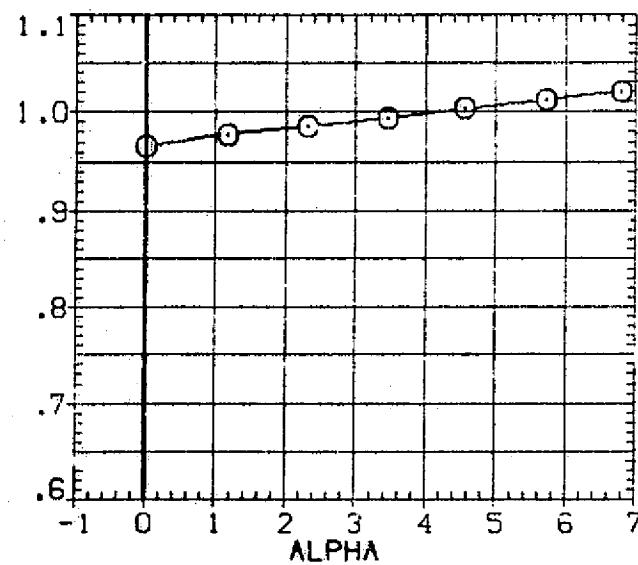
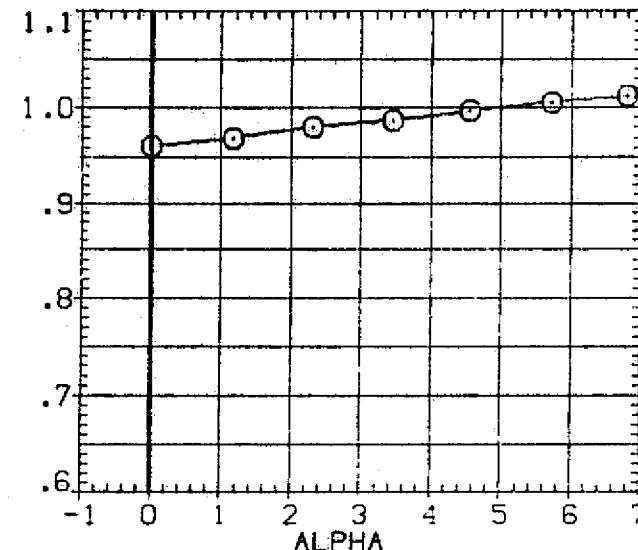
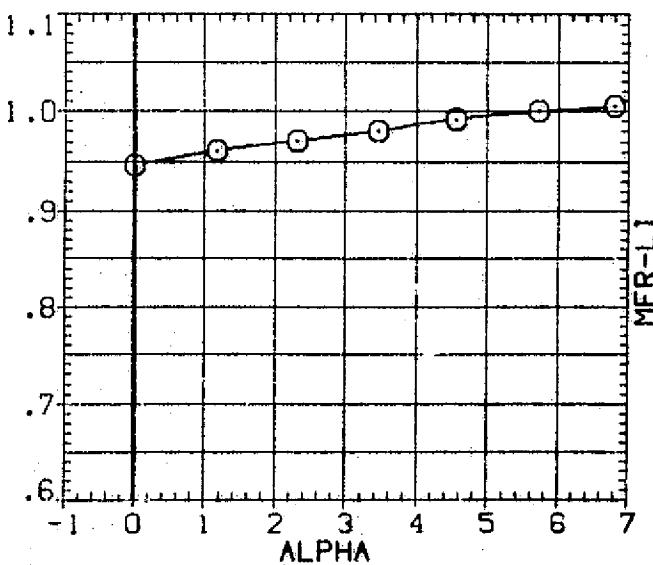


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30

PAGE 202

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	□	B N1 N1
(BAP026)	△	B N1 N1
(BAP027)	◆	B N1 N1
(BAP036)	○	B N2 N2
(BAP037)	▽	B N2 N2

X-IN80	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

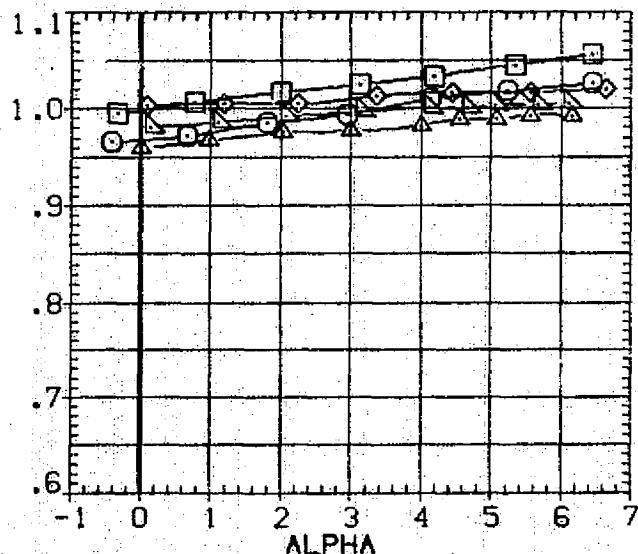
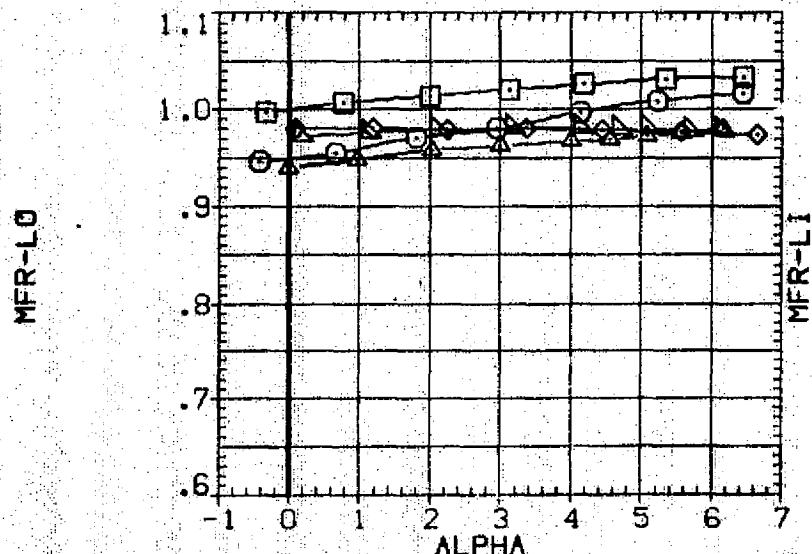
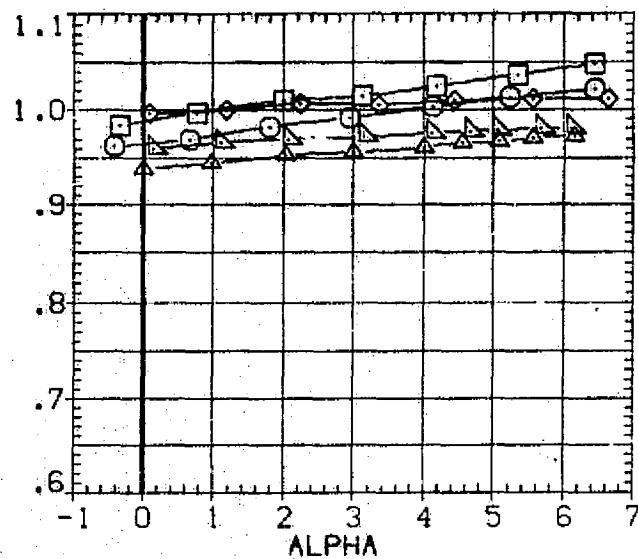
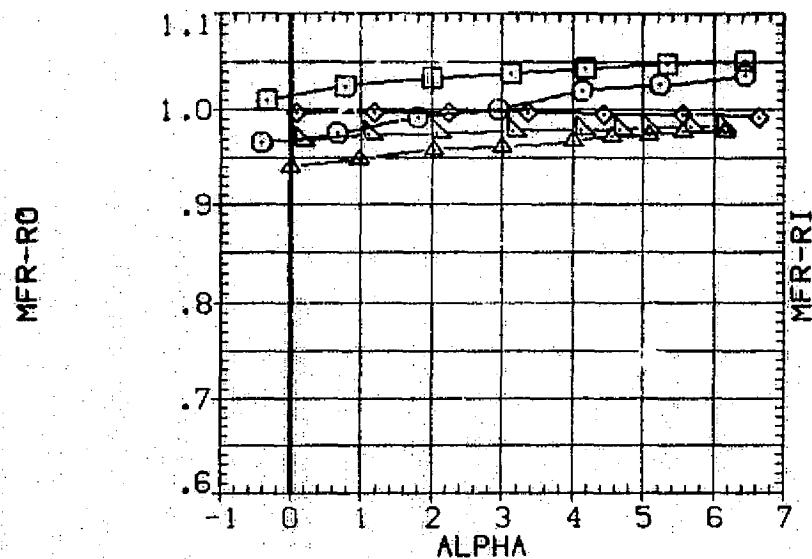


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 203

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(DAP025)	W B N1 N1
(BAP026)	DATA NOT AVAILABLE
(BAP027)	DATA NOT AVAILABLE
(BAP036)	DATA NOT AVAILABLE
(BAP037)	DATA NOT AVAILABLE

X-1N80	2Y1/B	2Y0/B	DX
56,000	.250	.550	.000
48,000	.250	.550	.000
40,000	.250	.550	.000
56,000	.250	.550	.000
48,000	.250	.550	.000

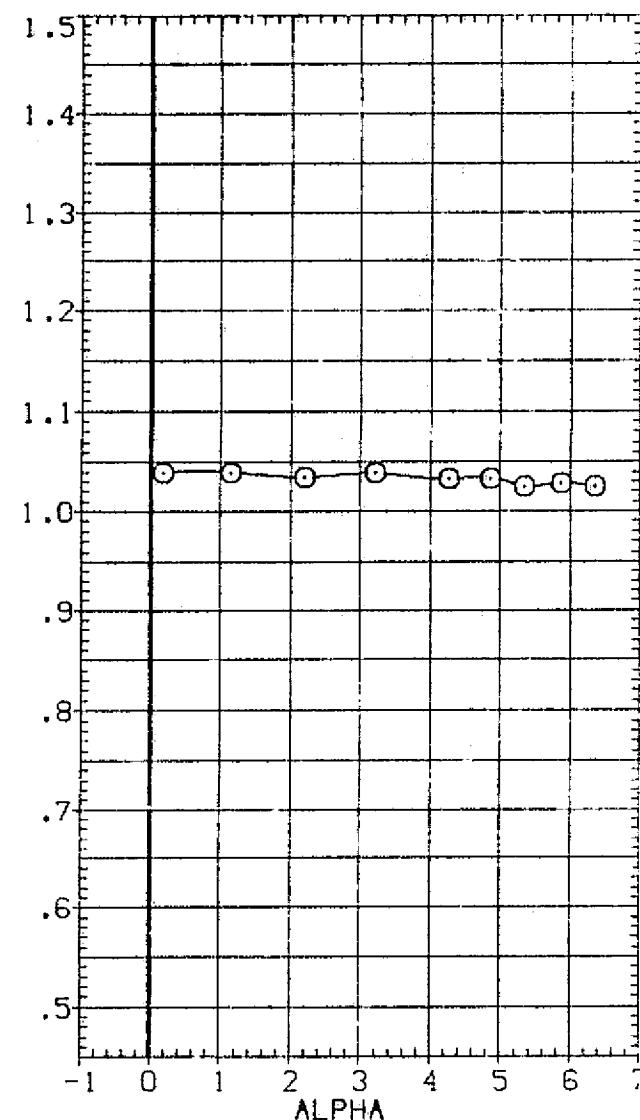
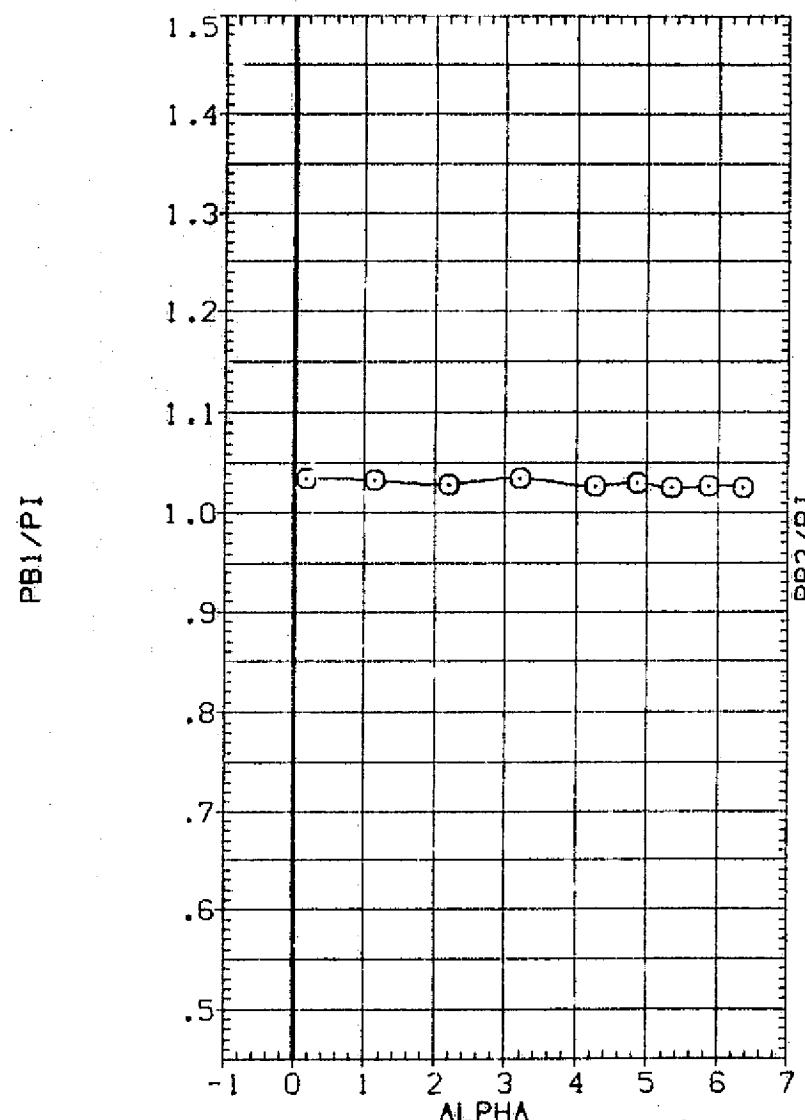


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

CADMACH = .90

PAGE 204

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	✓ B N1 N1
(BAP026)	○	✓ B N1 N1
(BAP027)	○	✓ B N1 N1
(BAP036)	×	✓ B N2 N2
(BAP037)	×	✓ B N2 N2

X-INBO	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

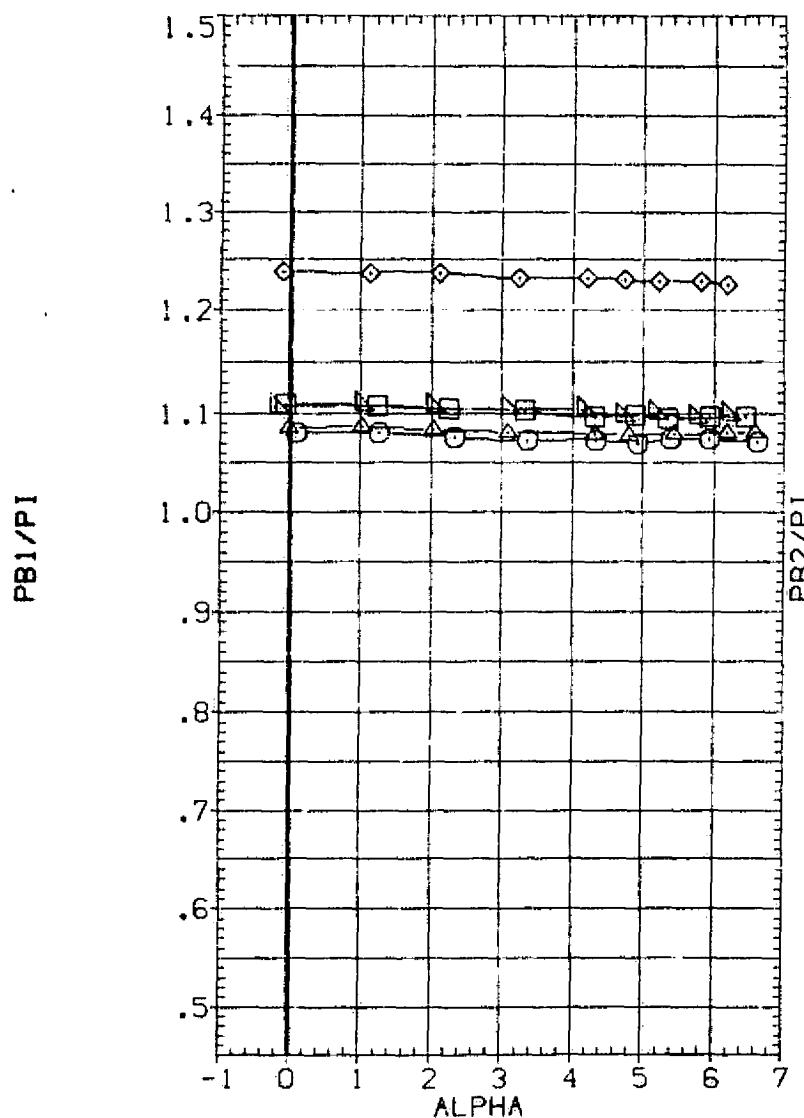
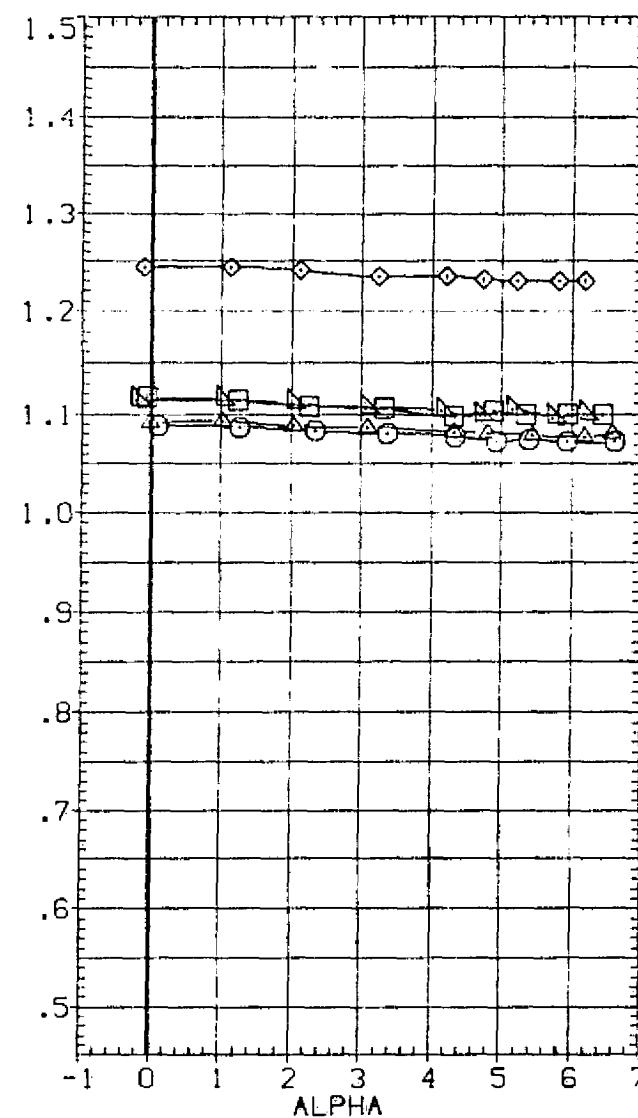


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(B)MACH = .98



PAGE 205

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	□	W B N1 N1
(BAP026)		DATA NOT AVAILABLE
(BAP027)	◇	DATA NOT AVAILABLE
(BAP036)	◇	DATA NOT AVAILABLE
(BAP037)	▷	DATA NOT AVAILABLE

X-MBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

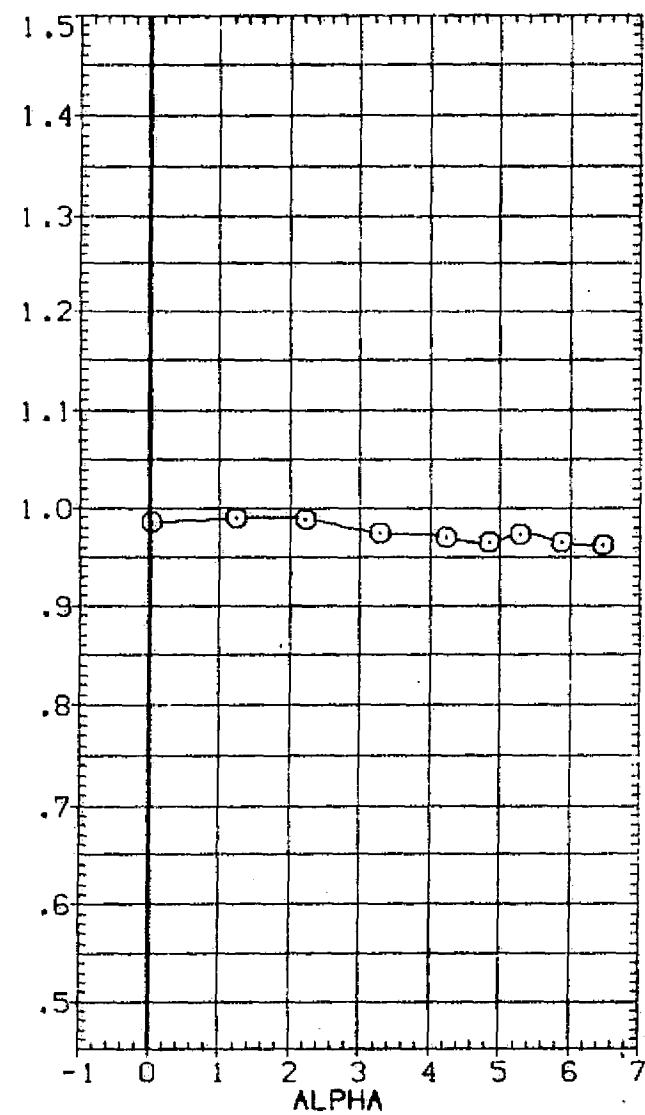
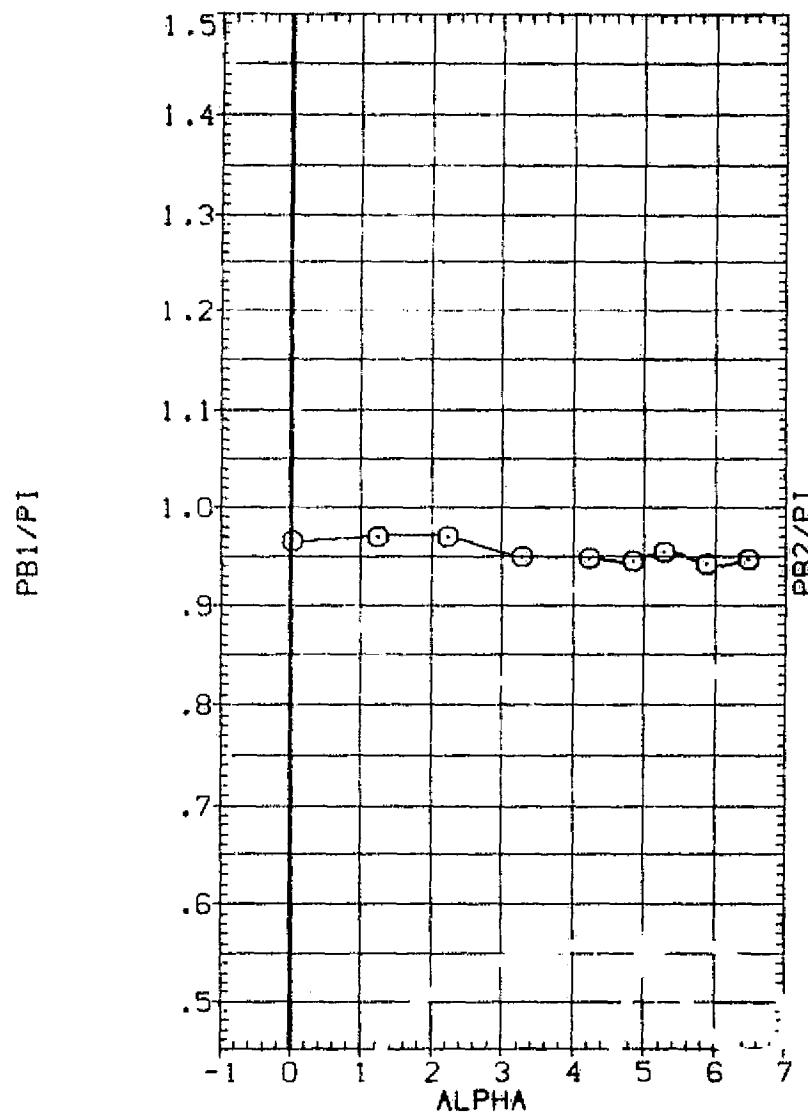


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.10

PAGE 206

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(DAP025)	W	B	N1	N1	
(BAP026)	□	W	B	N1	N1
(BAP027)	△	W	B	N1	N1
(BAP036)	▽	W	B	N2	N2
(BAP037)	▽	W	B	N2	N2

X-INBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

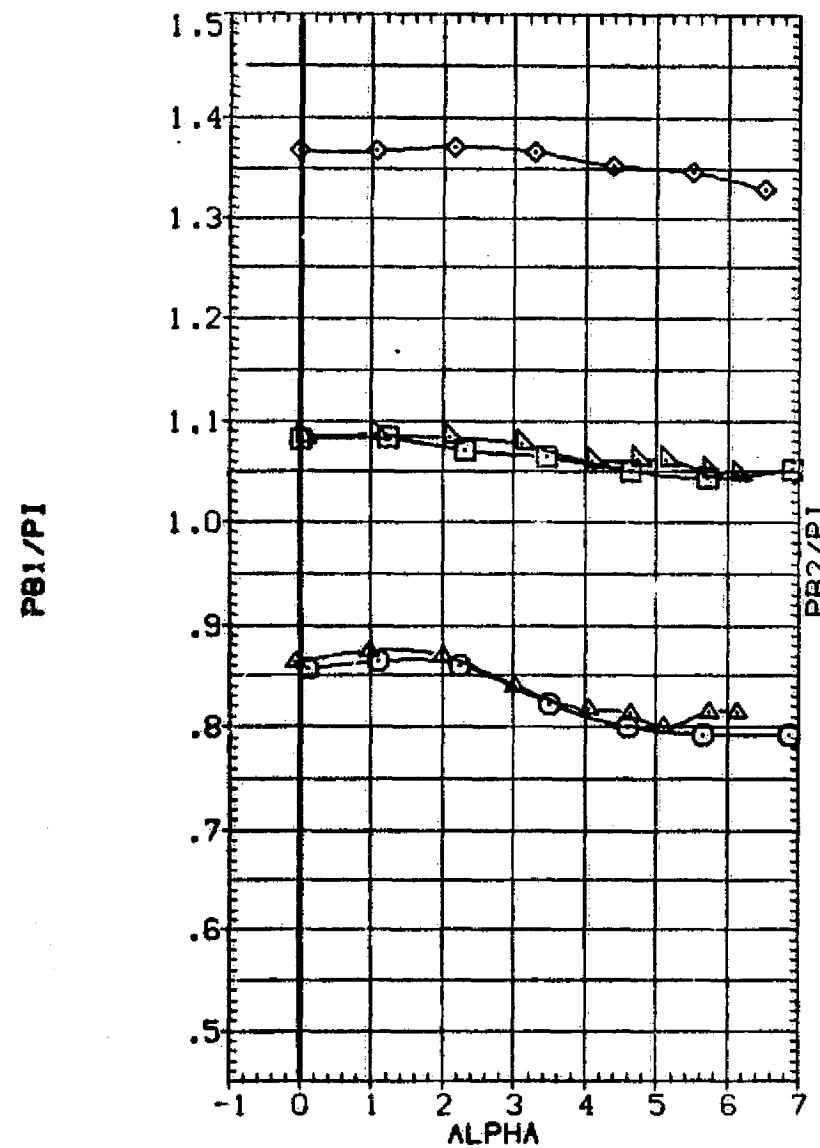
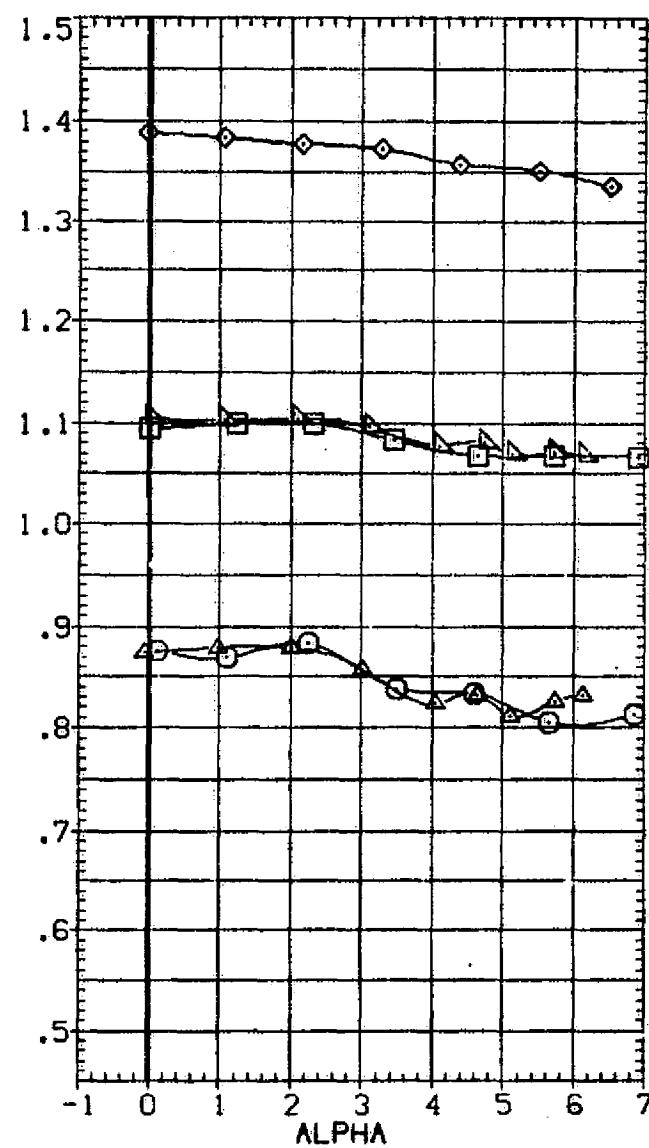


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(D)MACH = 1.15



PAGE 207

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025) \square W B NI NI
 (BAP026) \square DATA NOT AVAILABLE
 (BAP027) \square DATA NOT AVAILABLE
 (BAP036) \square DATA NOT AVAILABLE
 (BAP037) \square DATA NOT AVAILABLE

X-1NBD	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

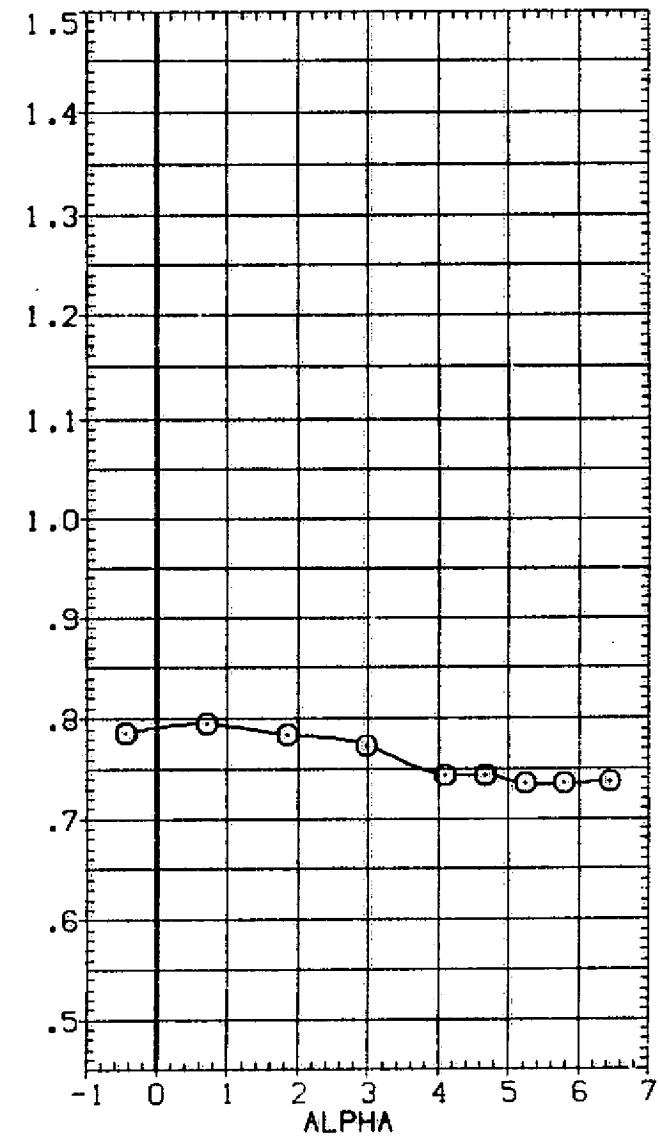
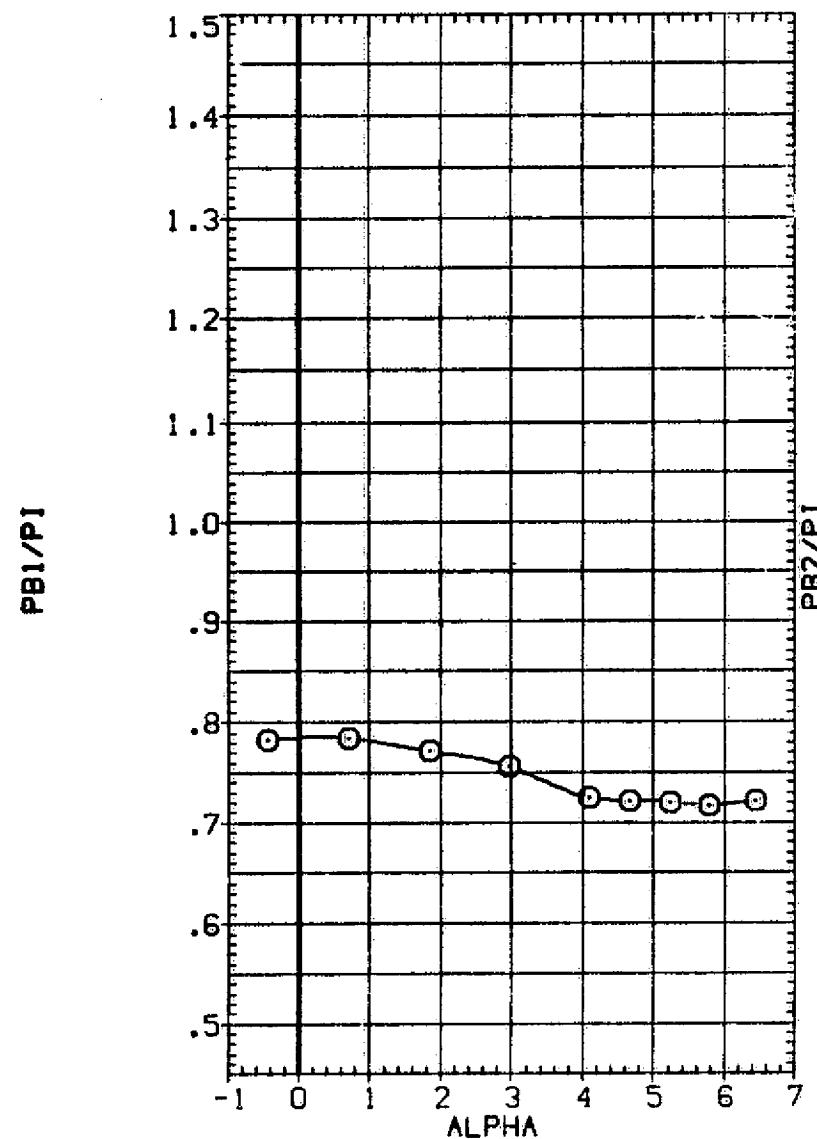


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(E)MACH = 1.17

DATA SET SYMBOL	CONFIGURATION DESCRIPTION
(BAP025)	W 8 N1 N1
(BAP026)	DATA NOT AVAILABLE
(BAP027)	DATA NOT AVAILABLE
(BAP036)	DATA NOT AVAILABLE
(BAP037)	DATA NOT AVAILABLE

X-INCH	2Y1/B	2Y0/B	DX
56.000	.250	.550	.000
48.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

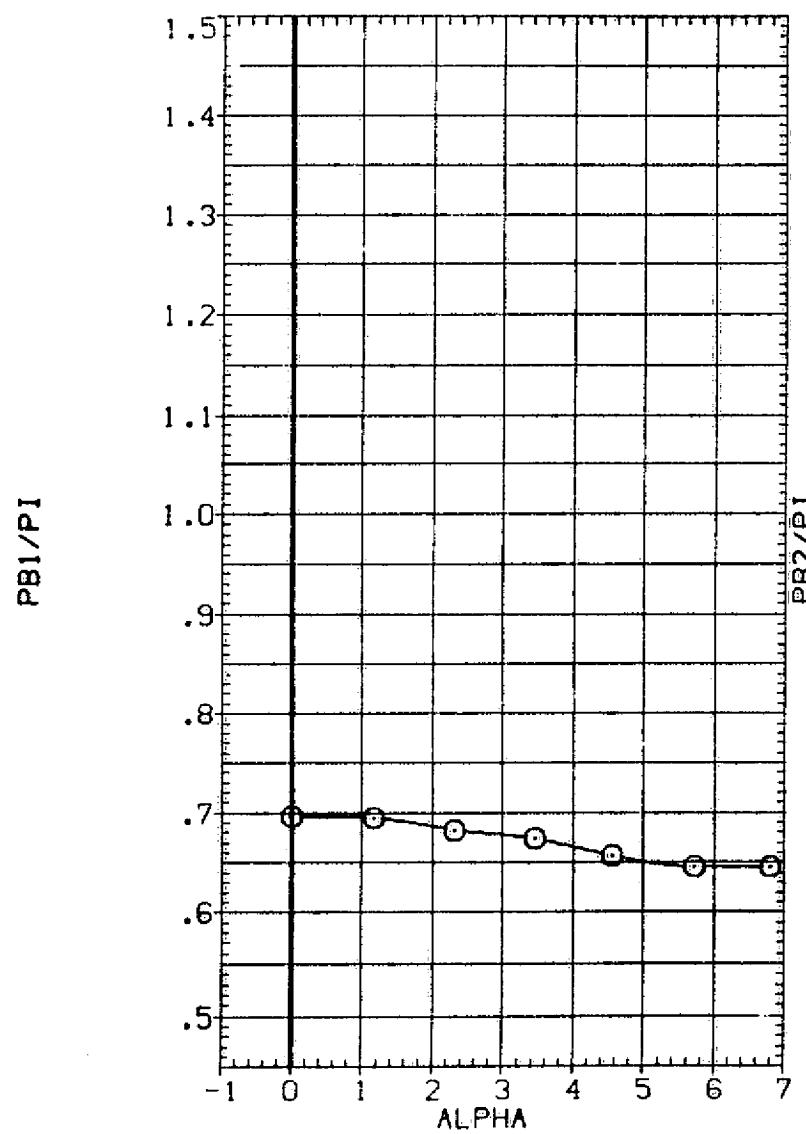
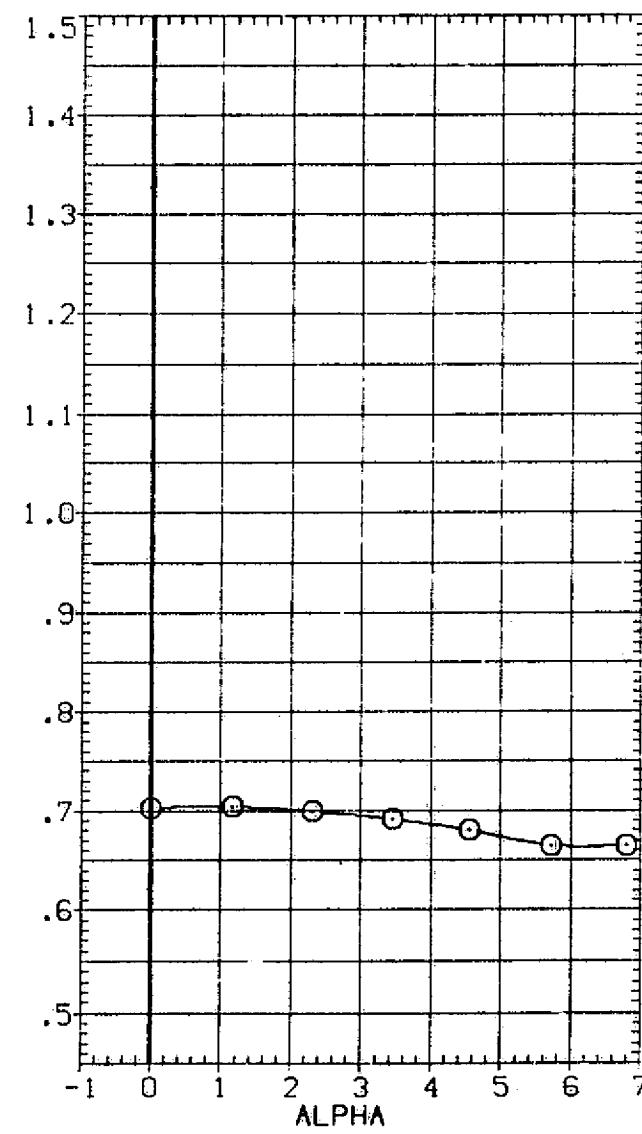


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(F)MACH = 1.30



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(BAP025)	○	W B N1 N1
(BAP026)	□	W B N1 N1
(BAP027)	◇	W B N1 N1
(BAP036)	△	W B N2 N2
(BAP037)	▽	W B N2 N2

X-INBO	2Y1/B	2Y0/B	0X
56.000	.250	.550	.000
49.000	.250	.550	.000
40.000	.250	.550	.000
56.000	.250	.550	.000
48.000	.250	.550	.000

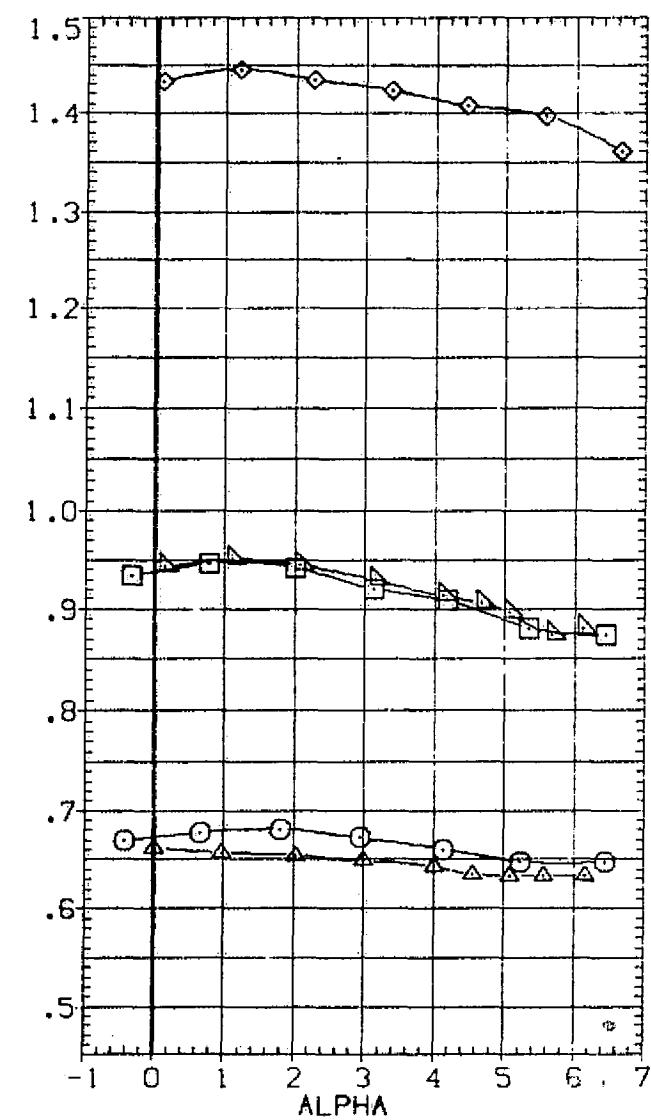
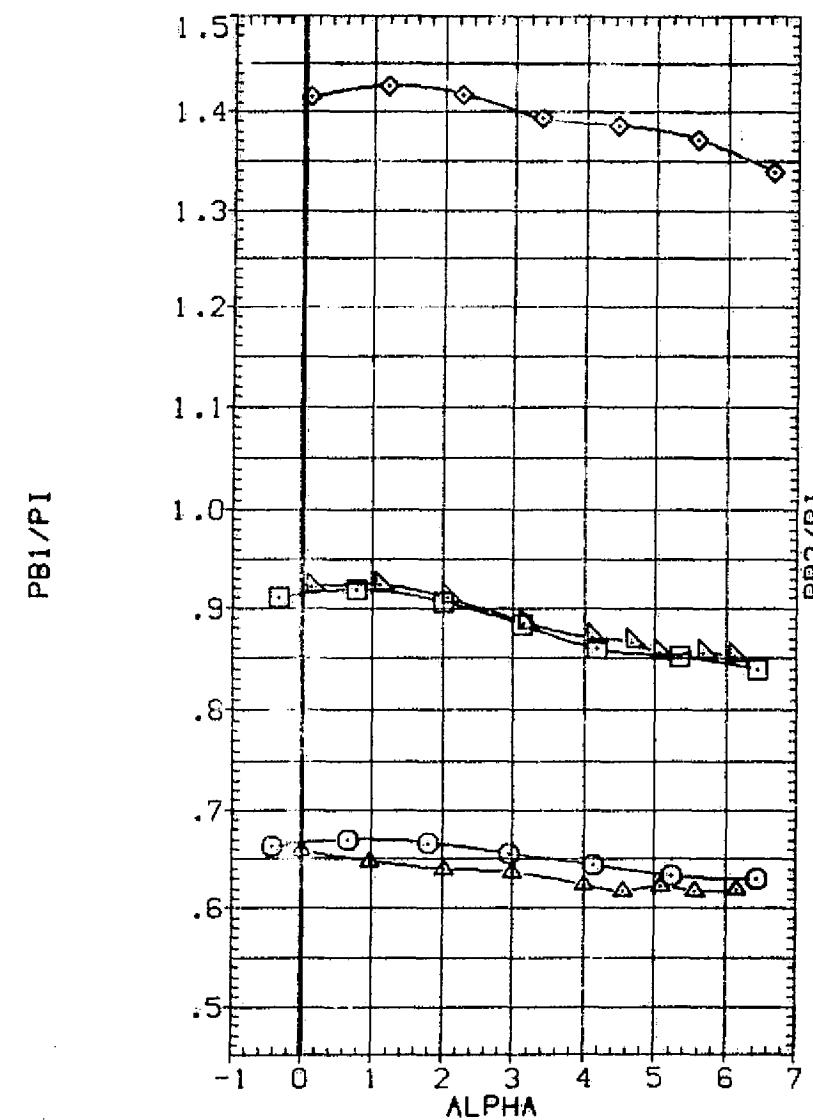


FIG. 13 EFFECTS OF ANGLE OF ATTACK ON NACELLE AND WING BODY FORCES.

(G)MACH = 1.40

PAGE 210

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP028)	□	✓ B NI NI
(RA 029)	□	✓ B NI NI
(RAP030)	◇	✓ B NI NI

X-INBD DX

56.000	.000
48.000	.000
40.000	.000

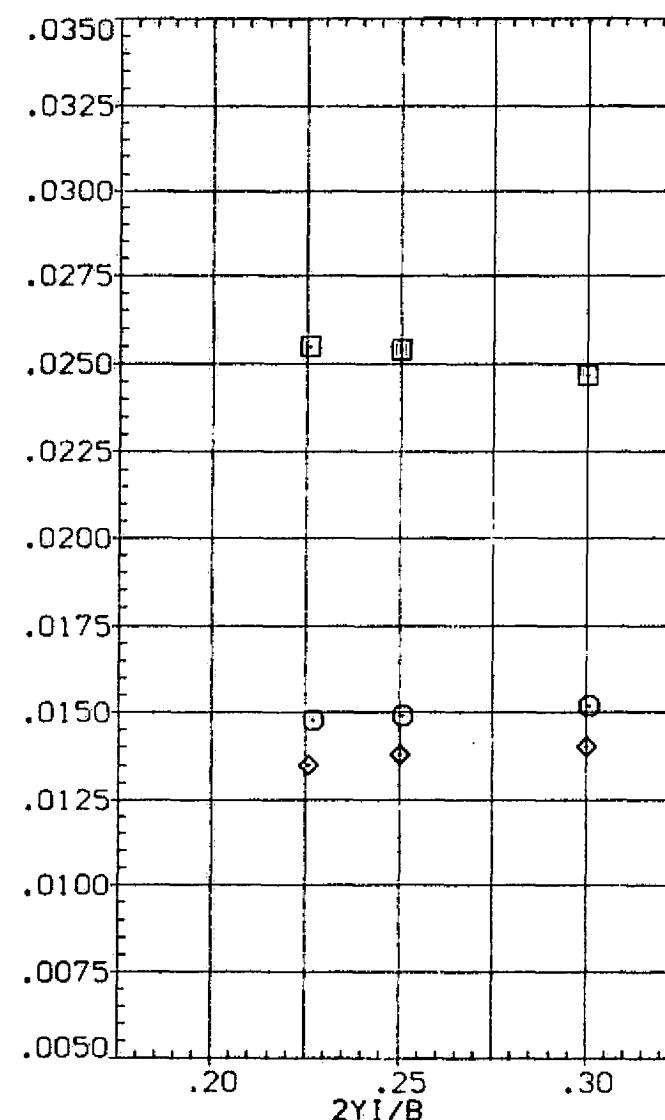
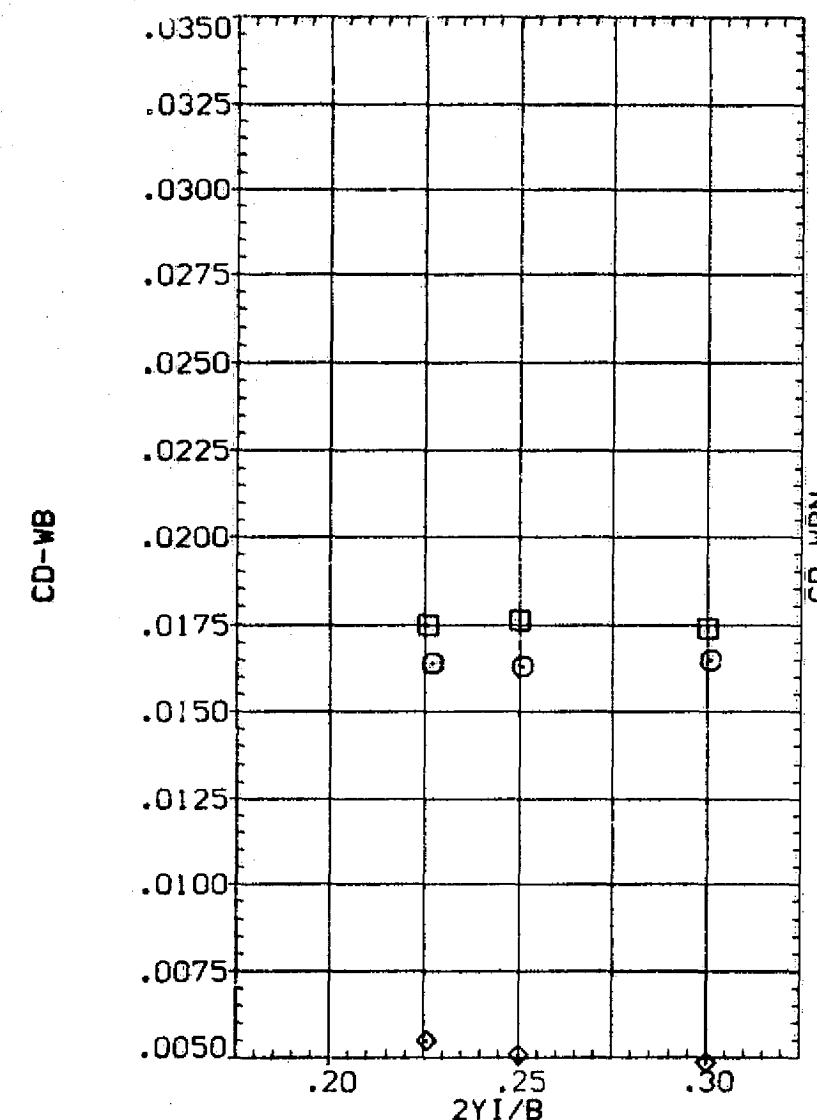


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.
(A)MACH = .98

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP028) \square V B N1 N1
 (RAP029) \square V B N1 N1
 (RAP030) \diamond V B N1 N1

X-INBD BX

56.000	.000
48.000	.000
40.000	.000

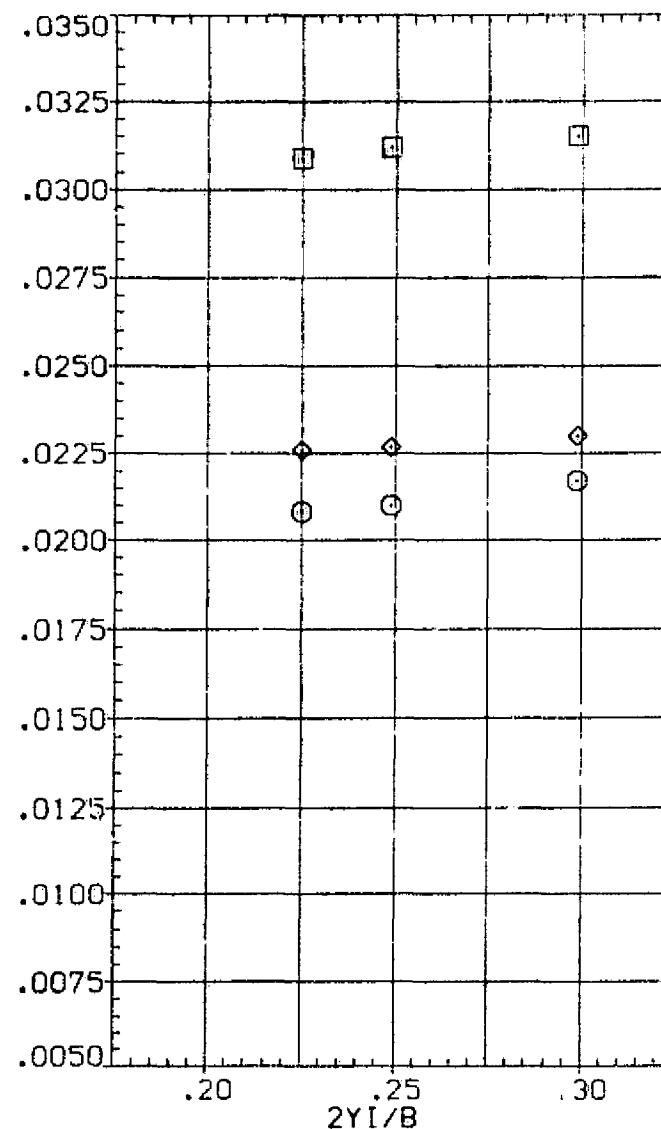
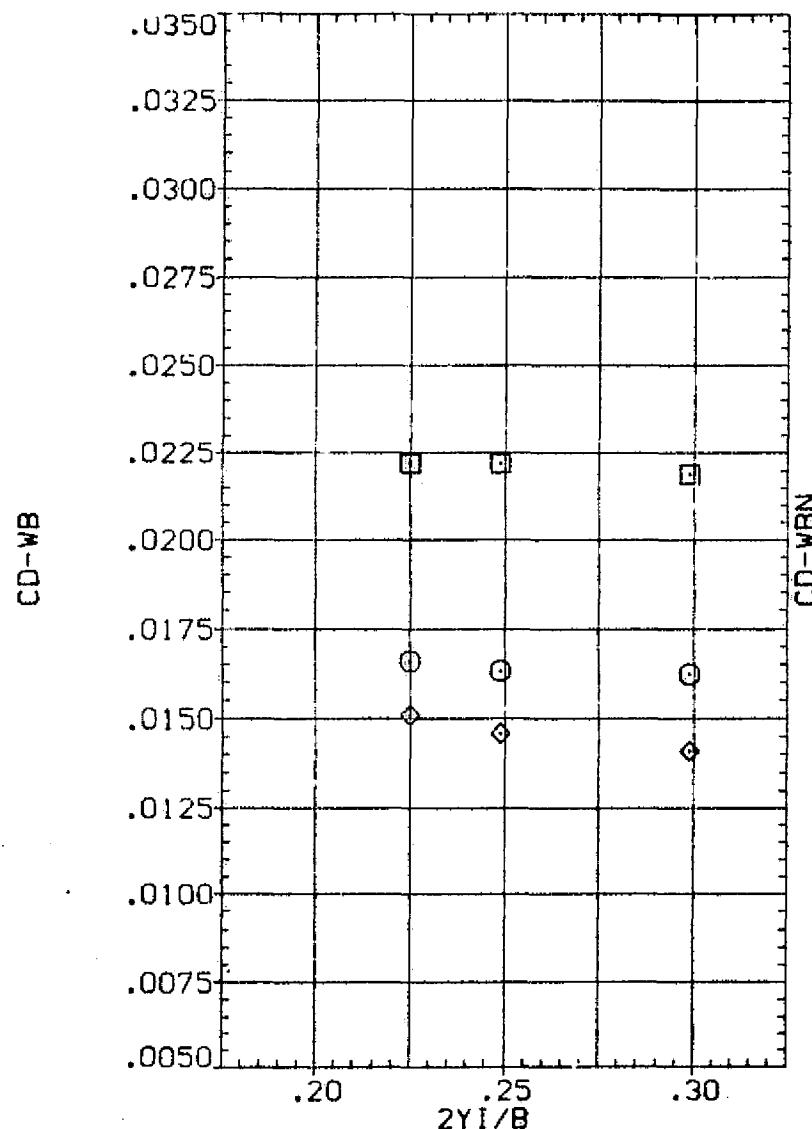


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.

(B)MACH = 1.15

PAGE 212

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP028)	□	W B N1 N1
(RAP029)	□	W B N1 N1
(RAP030)	○	W B N1 N1

X-INAD BX

56.000	.000
48.000	.000
40.000	.000

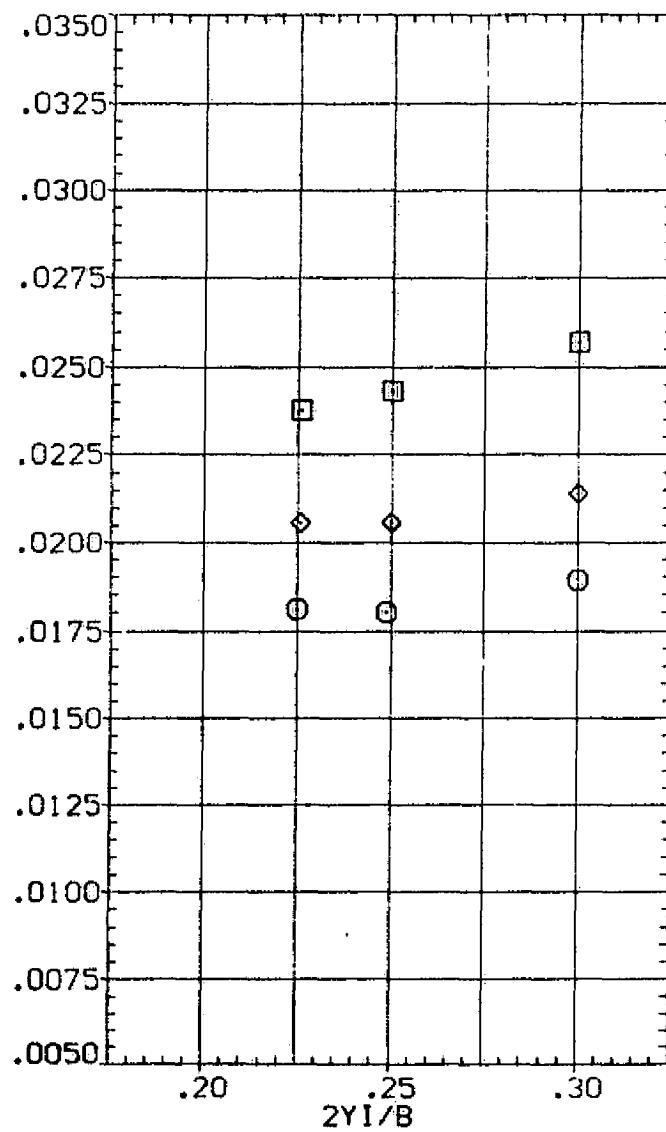
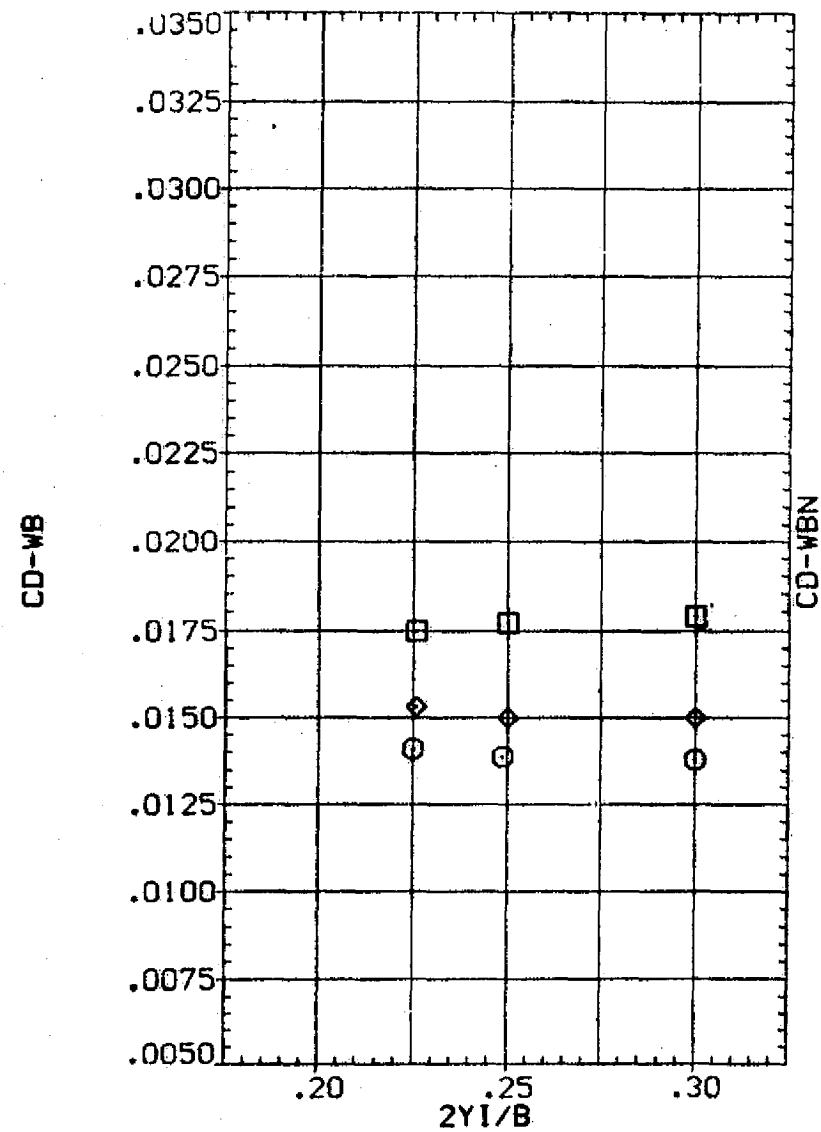


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.40

PAGE 213

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAPO28) \circ W B N1 N1
 (RAPO29) \square W B N1 N1
 (RAPO30) \diamond W B N1 N1

X-INCH DX

56.000	.000
48.000	.000
40.000	.000

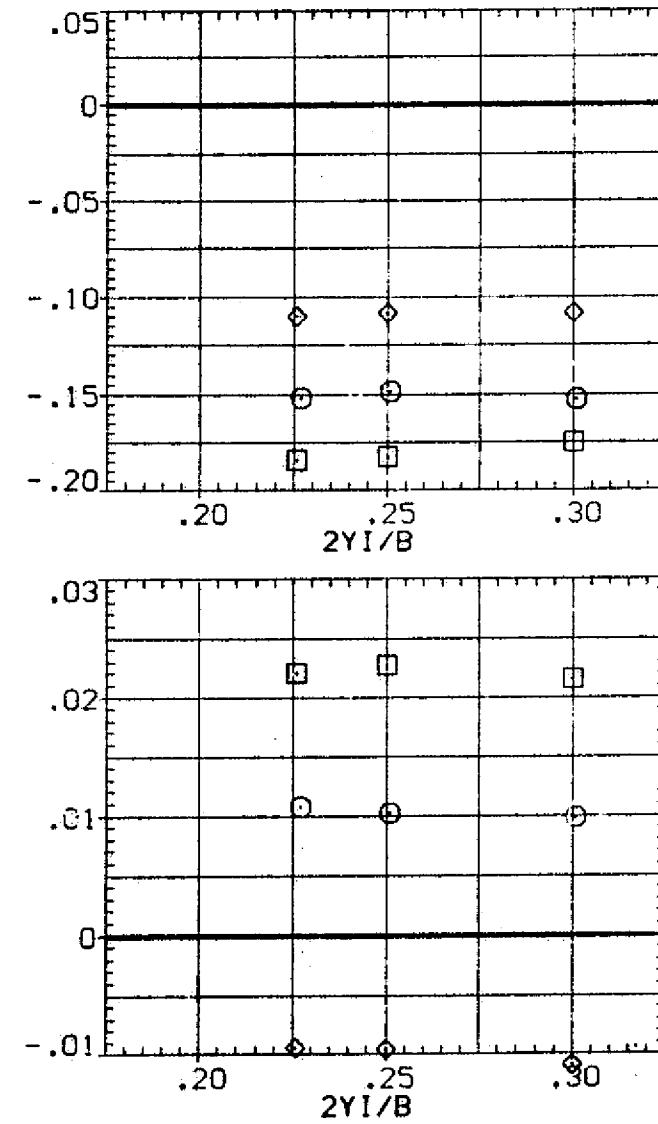
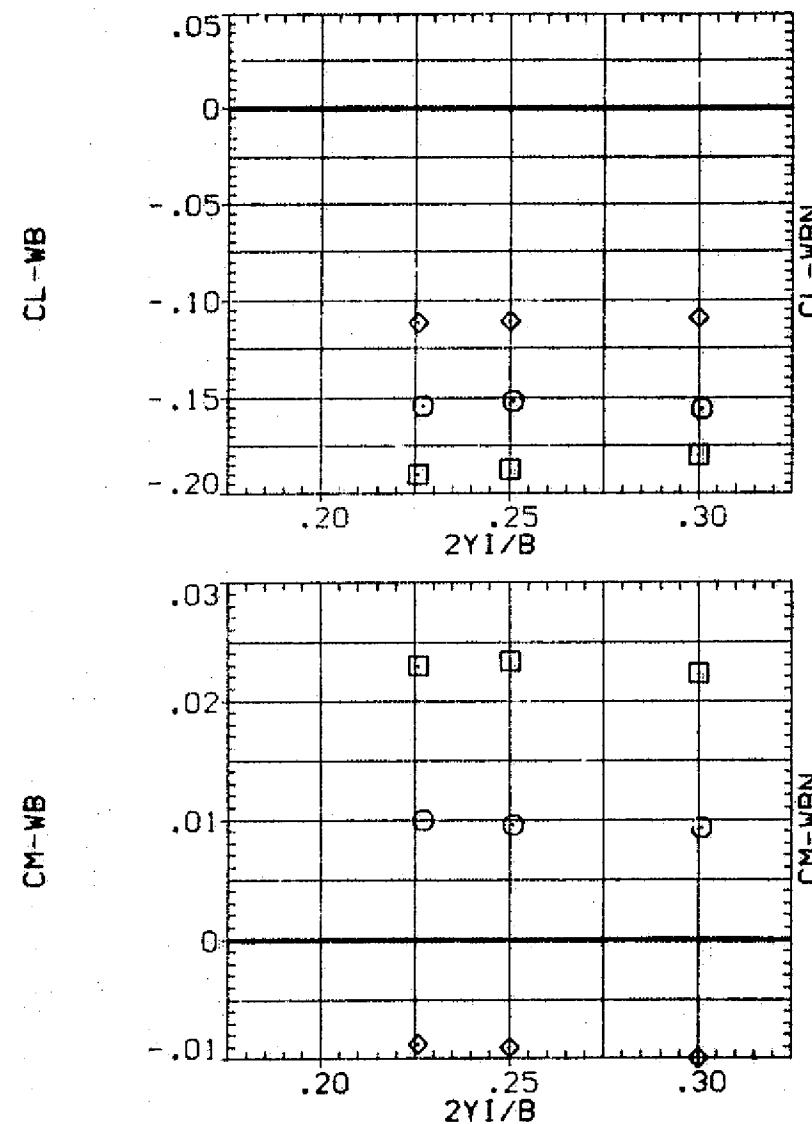


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.
 (A) MACH = .98

DATA SET SYMBOL : CONFIGURATION DESCRIPTION
 (RAP028) \bigcirc W B N1 N1
 (RAP029) \diamond W B N1 N1
 (RAP030) \square W B N1 N1

X-INCH DX
 56.000 .000
 48.000 .000
 40.000 .000

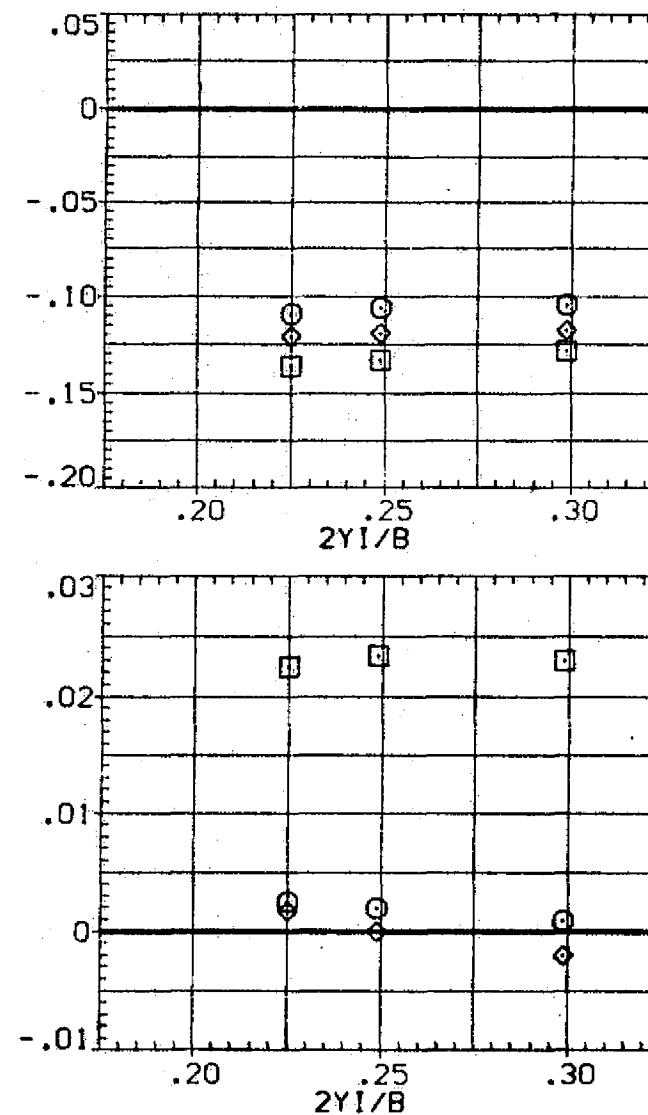
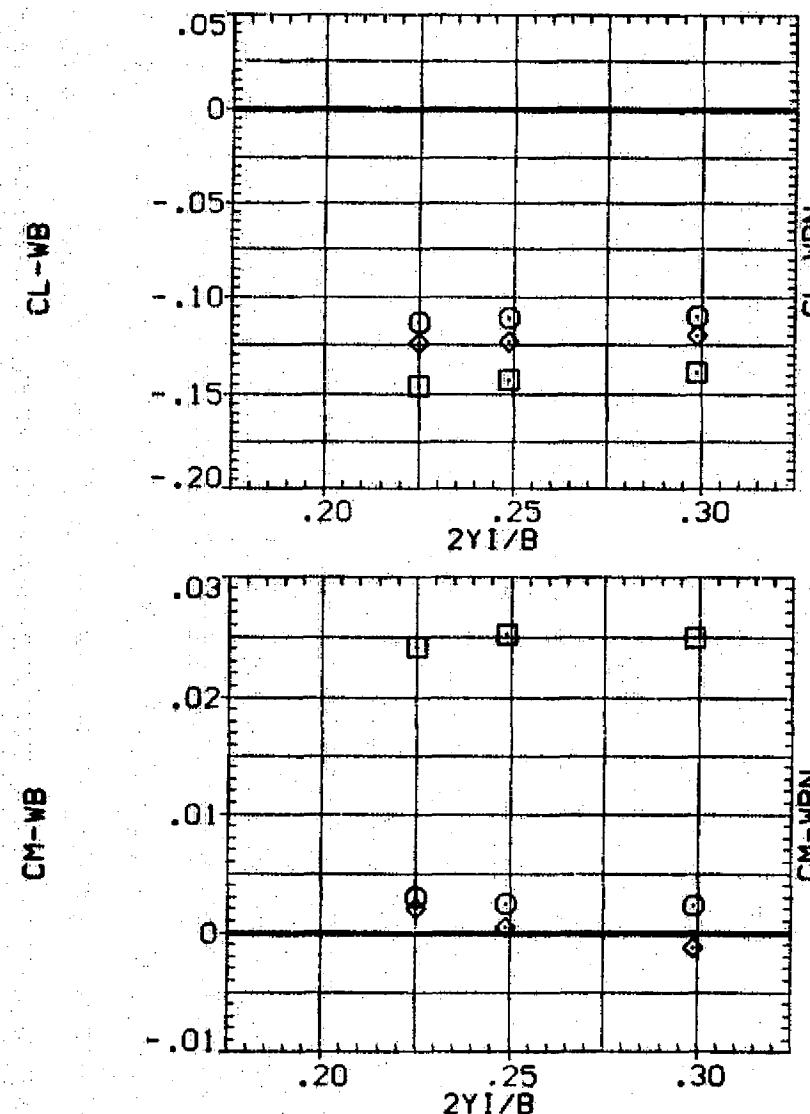


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.

(B)MACH = 1.15

PAGE 215

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP028) W B N1 N1
 (RAP029) W B N1 M1
 (RAP030) W B N1 N1

X-INBD DX

56.000 .000
 48.000 .000
 40.000 .000

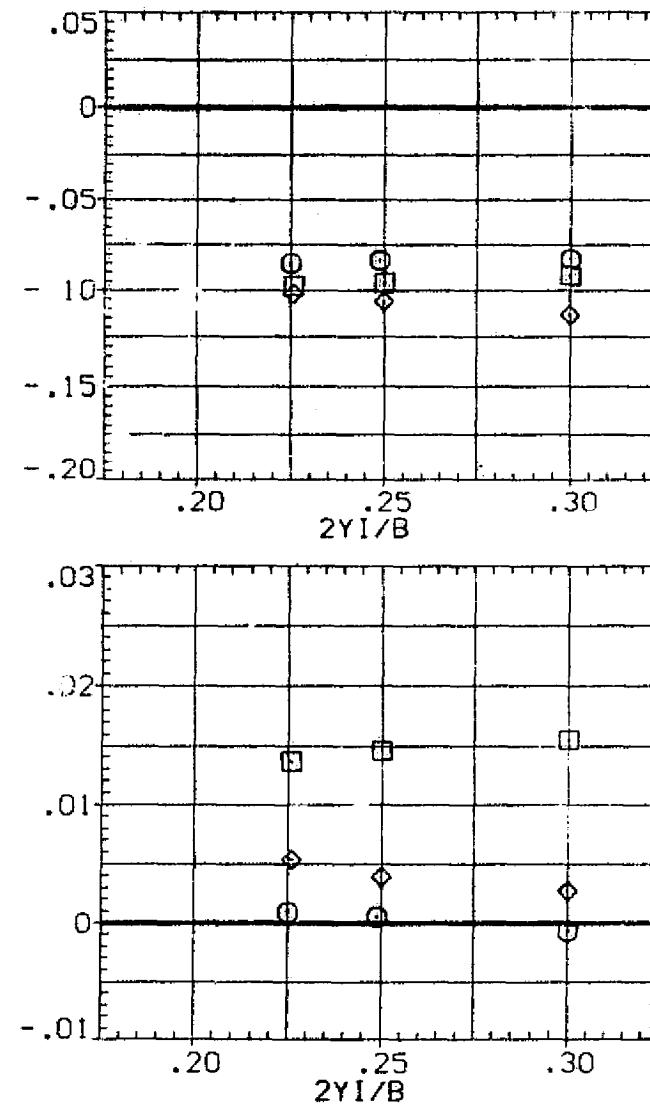
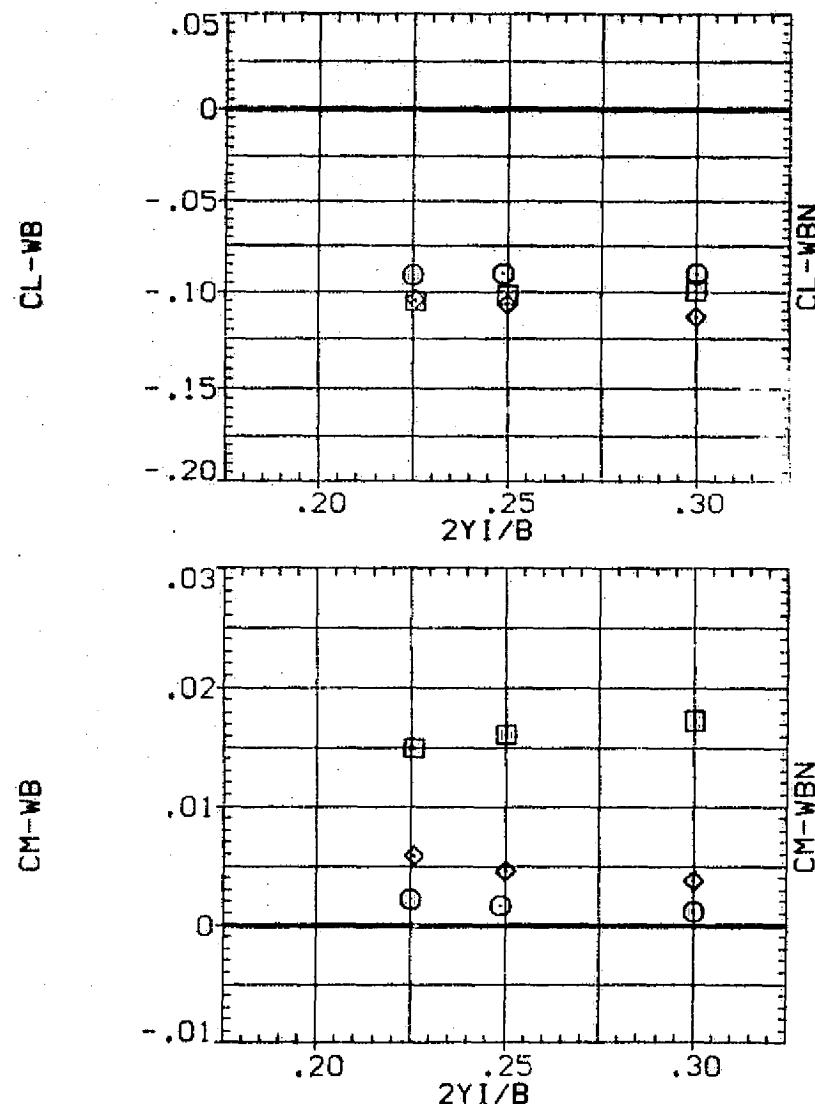


FIG. 14 EFFECTS OF NACELLE SPANWISE LOCATION ON NACELLE AND WING BODY FORCES.

(C)MACH = 1.40

PAGE 216

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ W B
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	ZY1/B	ZY0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

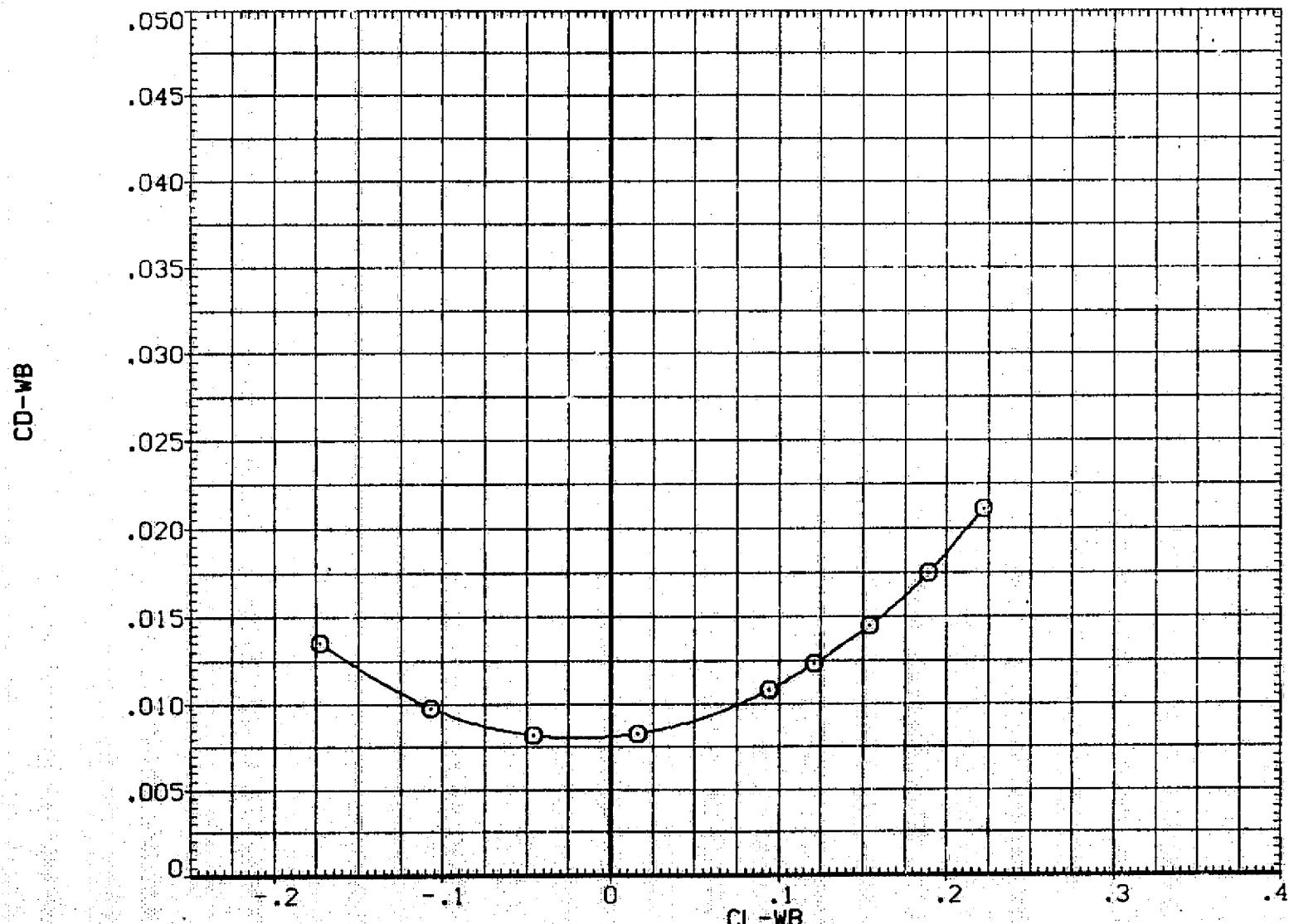


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(A)MACH = .90

PAGE 217

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ v B
 (RAP039) \square v B
 (RAP040) \diamond v B

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

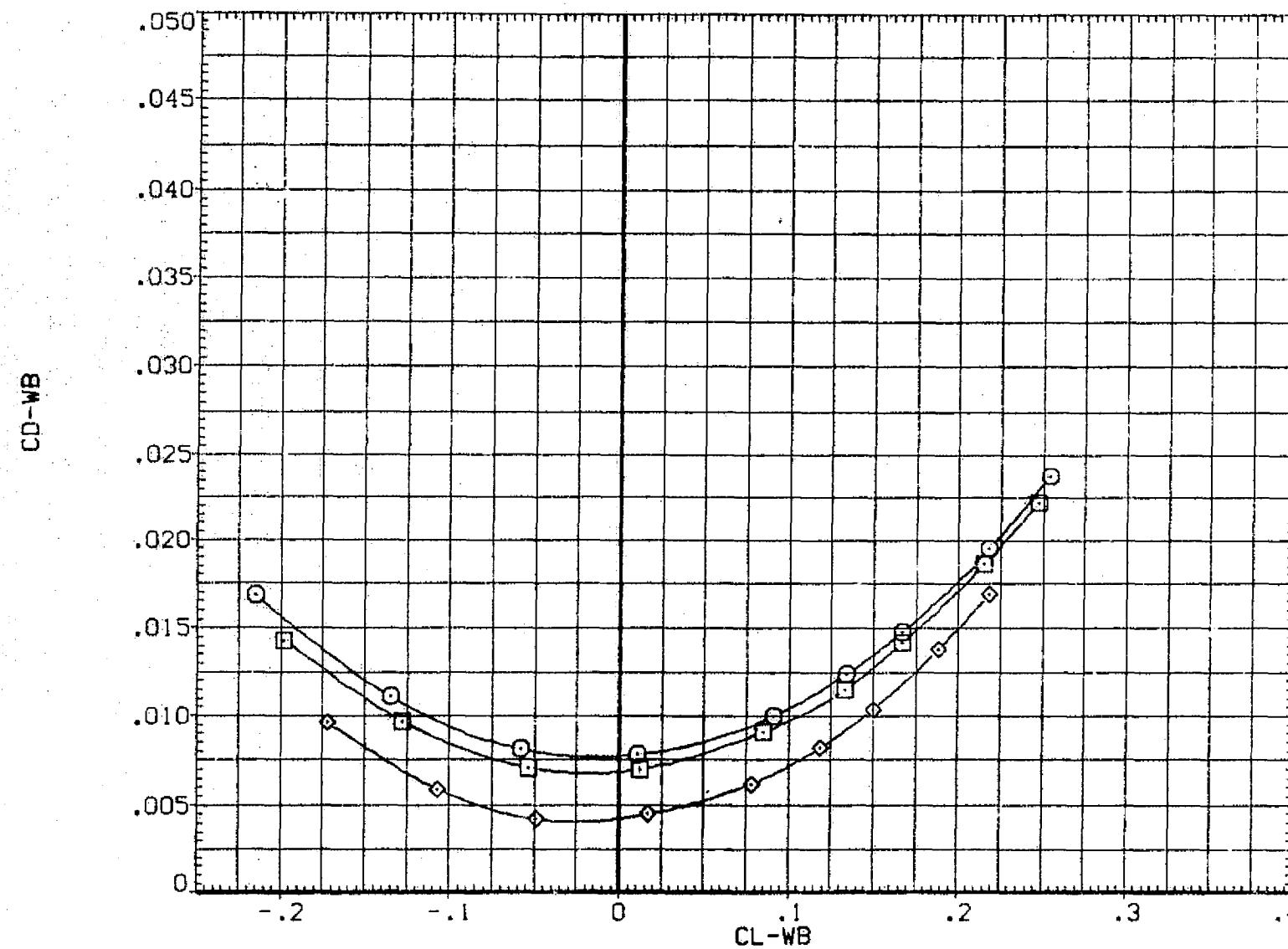


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(B)MACH = .98

PAGE 218

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ V B
 (RAP039) \times DATA NOT AVAILABLE
 (RAP040) ∇ DATA NOT AVAILABLE

X-MA	Dx	ZY1/B	ZY0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

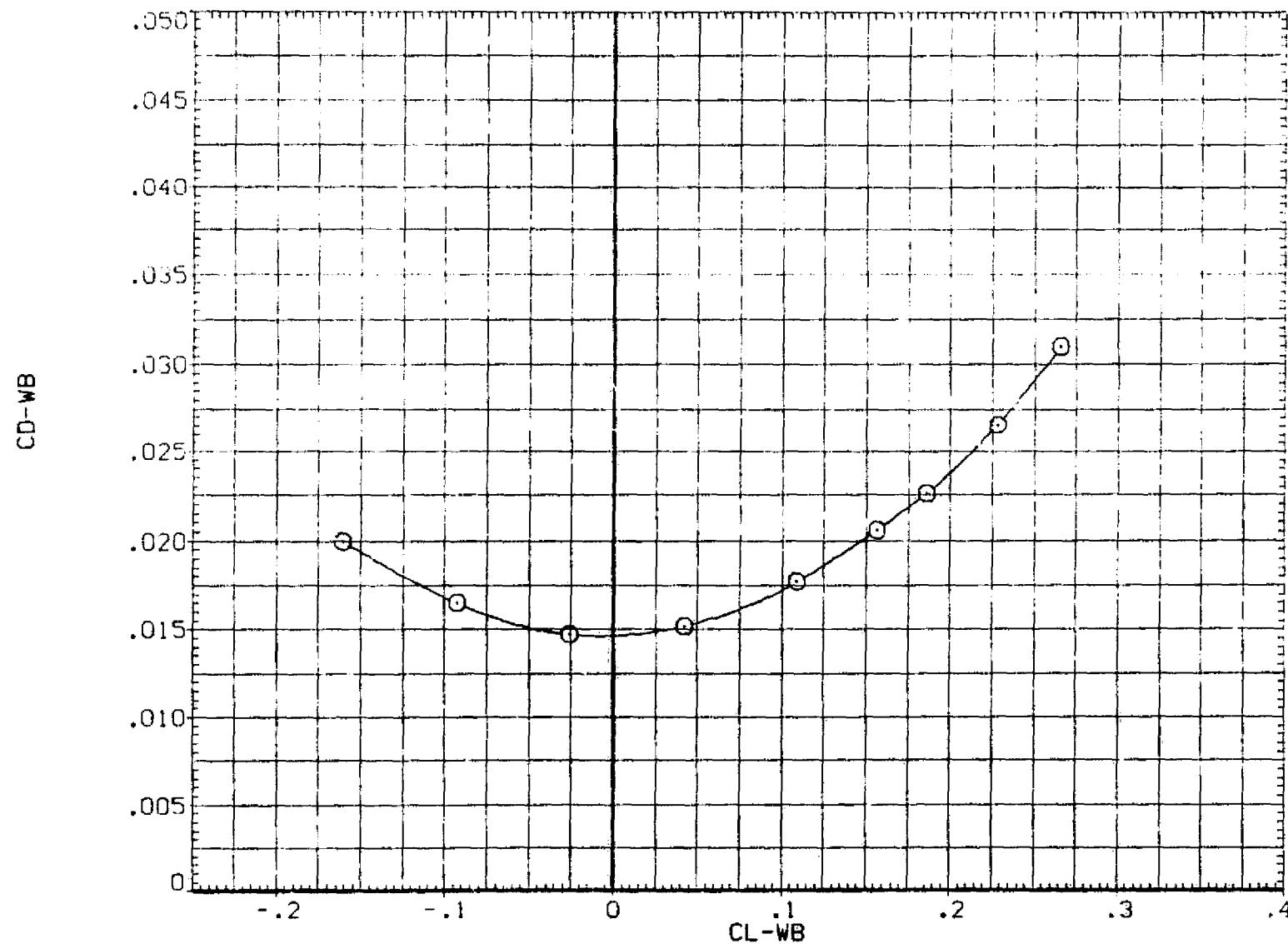


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(C)MACH = 1.10

PAGE 219

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAPO38) \square V 8
 (RAPO39) \square V 8
 (RAPO40) \times V 8

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

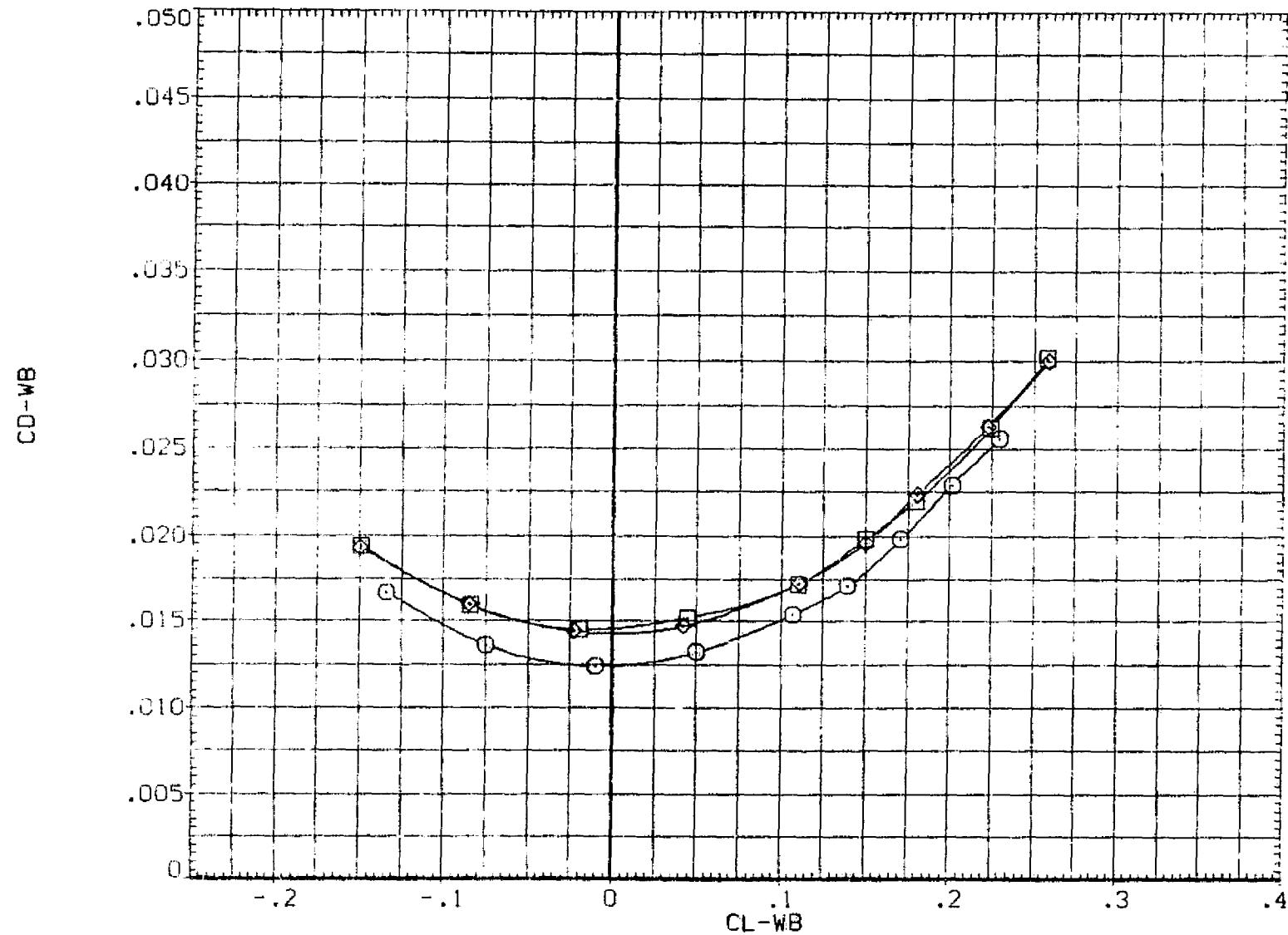


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(CD)MACH = 1.15

PAGE 220

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP036)	○	V B
(RAP039)	□	DATA NOT AVAILABLE
(RAP040)	◇	DATA NOT AVAILABLE

Y-MA	DX	Z1/B	Z2/B
52,000	.000	.250	.550
48,000	.000	.250	.550
40,000	.000	.250	.550

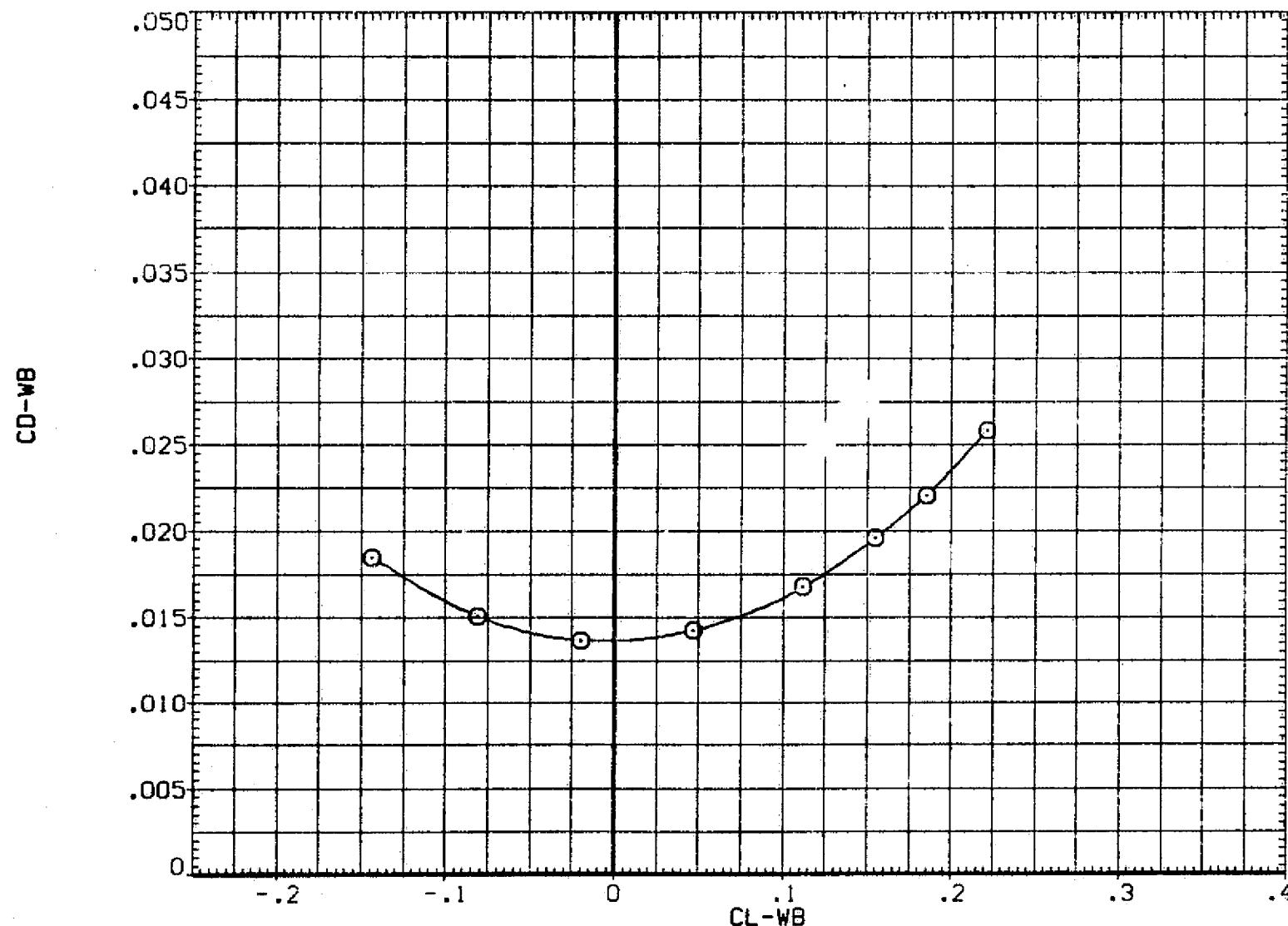


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

CEOMACH = 1.20

PAGE 221

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP038)  V B
 (RAP039)  DATA NOT AVAILABLE
 (RAP040)  DATA NOT AVAILABLE

X-MA	DX	ZY1/B	ZY0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

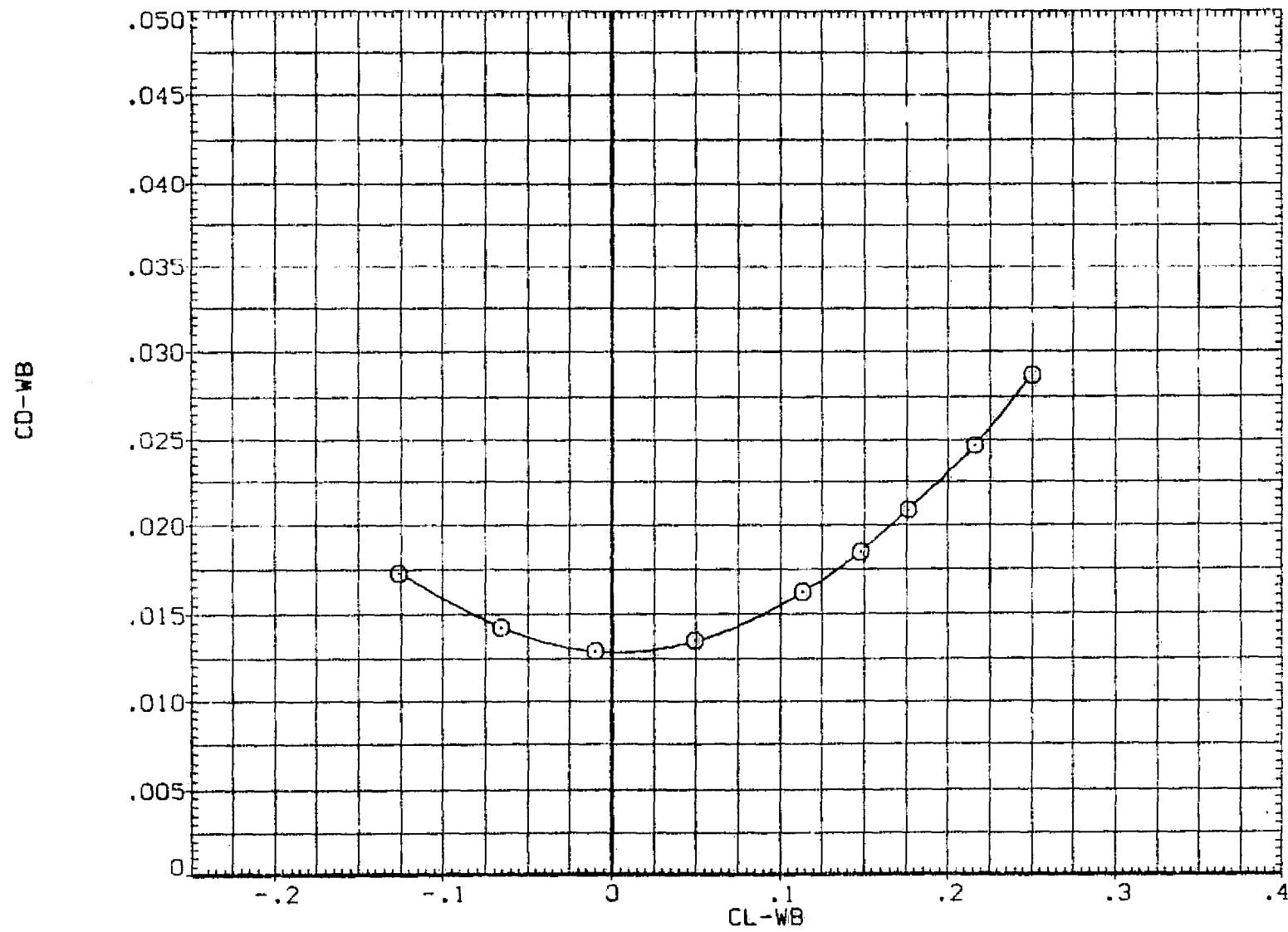


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(F)MACH = 1.30

PAGE 222

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[RAP038]	○	W B
[RAP039]	▼	B
[RAP040]	◇	V B

X-MA	DX	ZY1/B	ZY0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

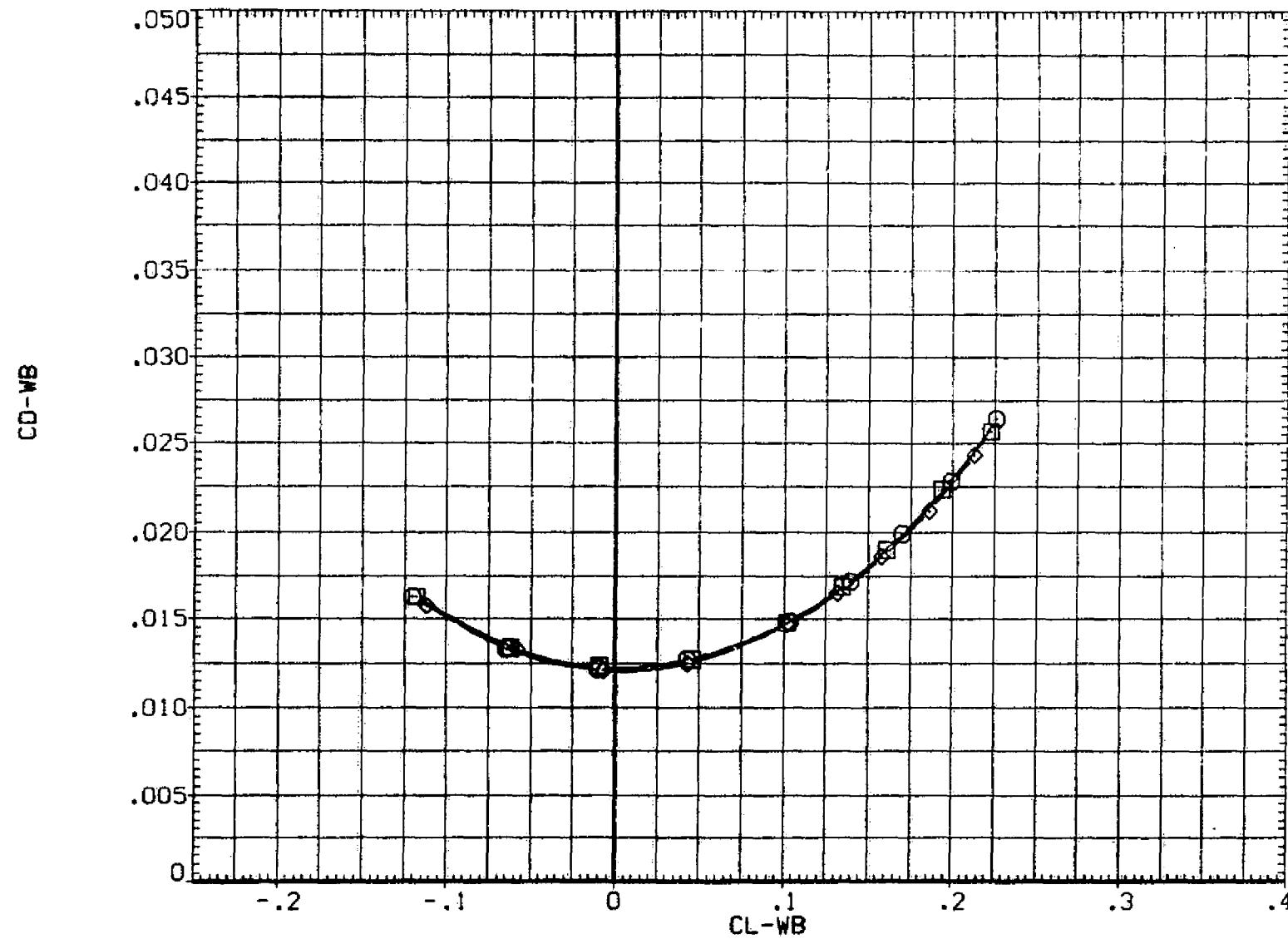


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(G)MACH = 1.40

PAGE 223

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ V-B
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	2Y1/B	2Y0/B
52,000	.000	.250	.550
48,000	.000	.250	.550
40,000	.000	.250	.550

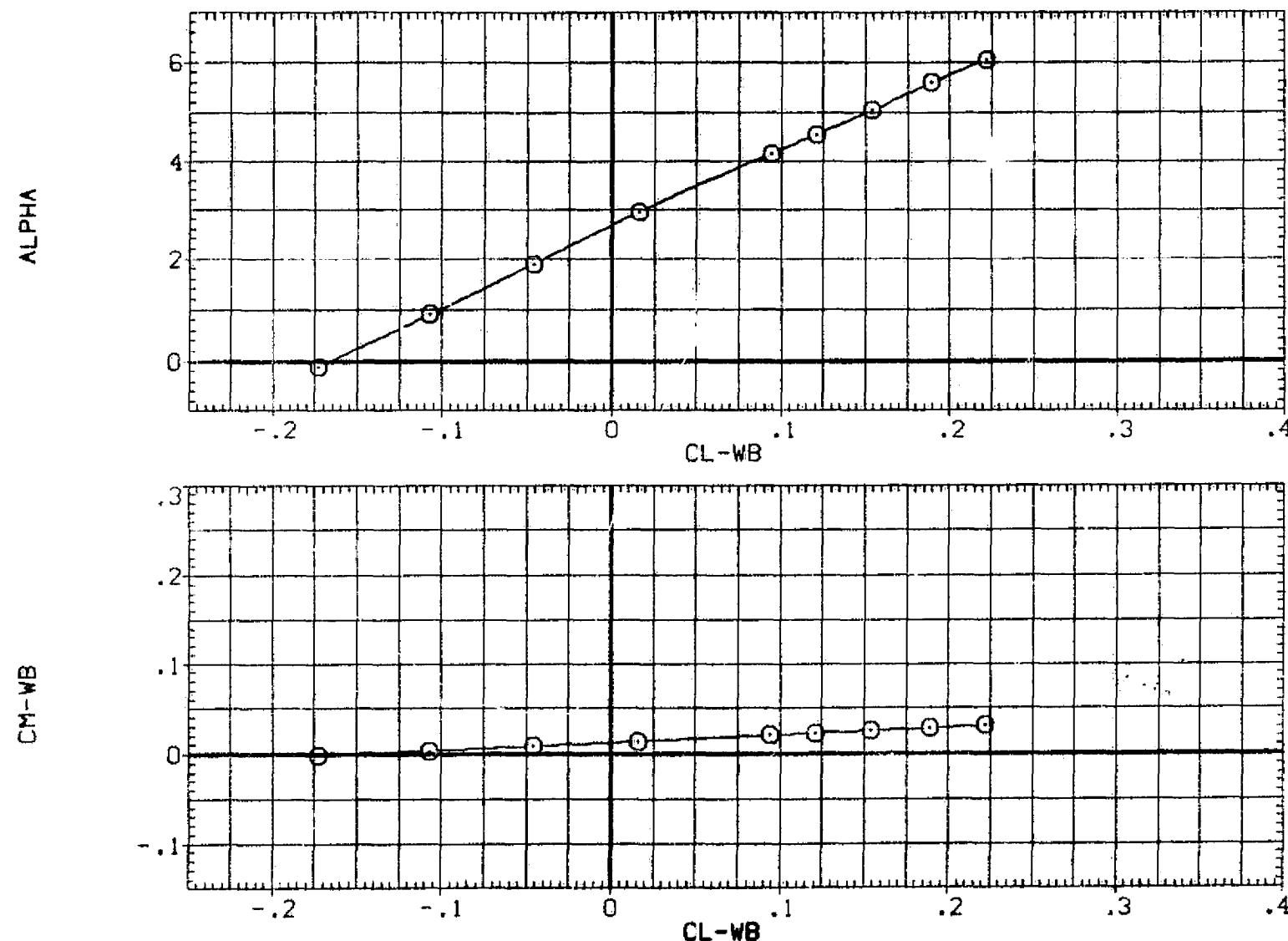


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

$MACH = .90$

PAGE 224

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038)	□	W B
(RAP039)	□	W B
(RAP040)	△	W B

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

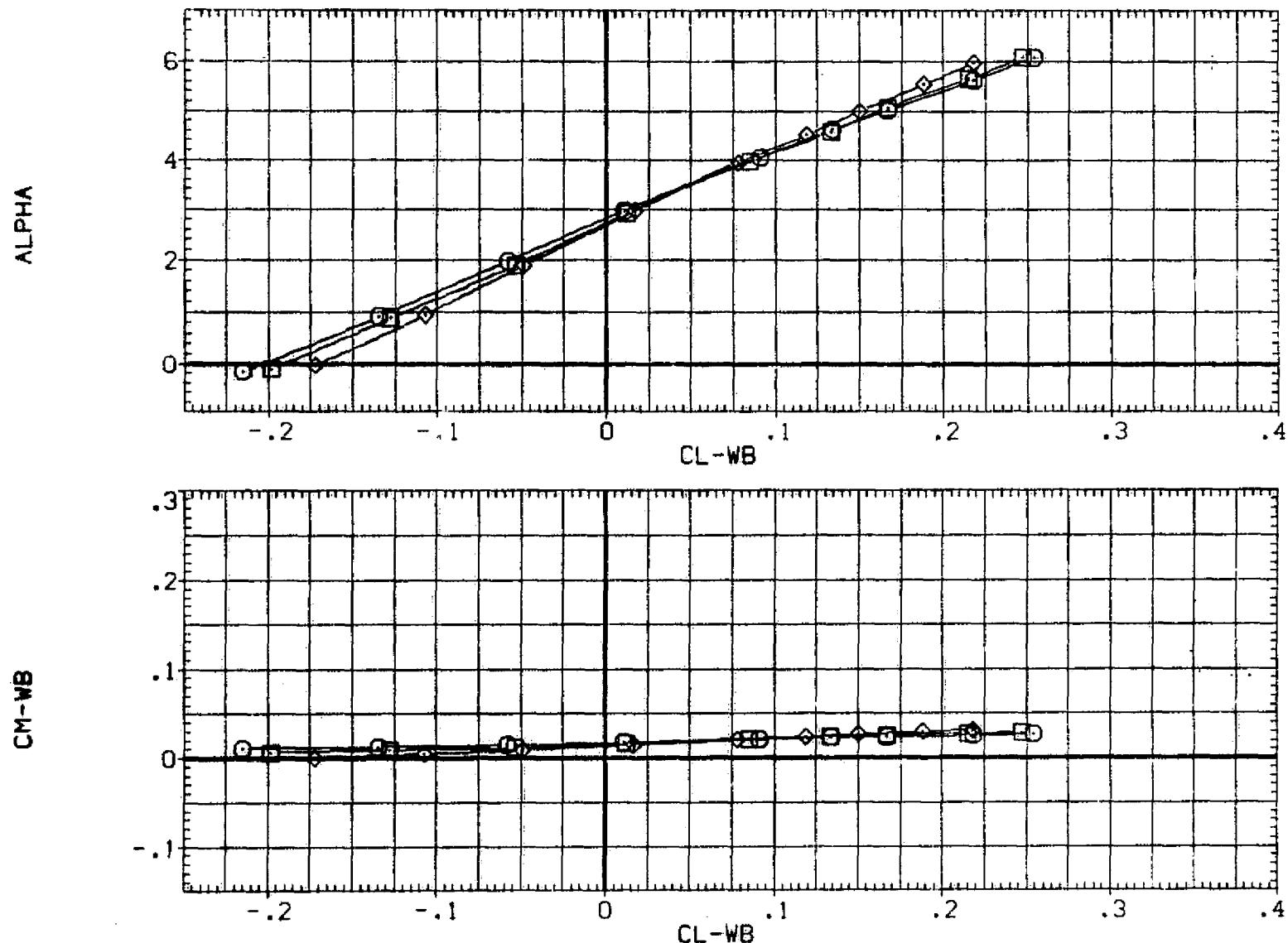


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(B)MACH = .98

PAGE 225

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP038) W B
 (RAP039) DATA NOT AVAILABLE
 (RAP040) DATA NOT AVAILABLE

X-MA	DX	2YI/B	2YO/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

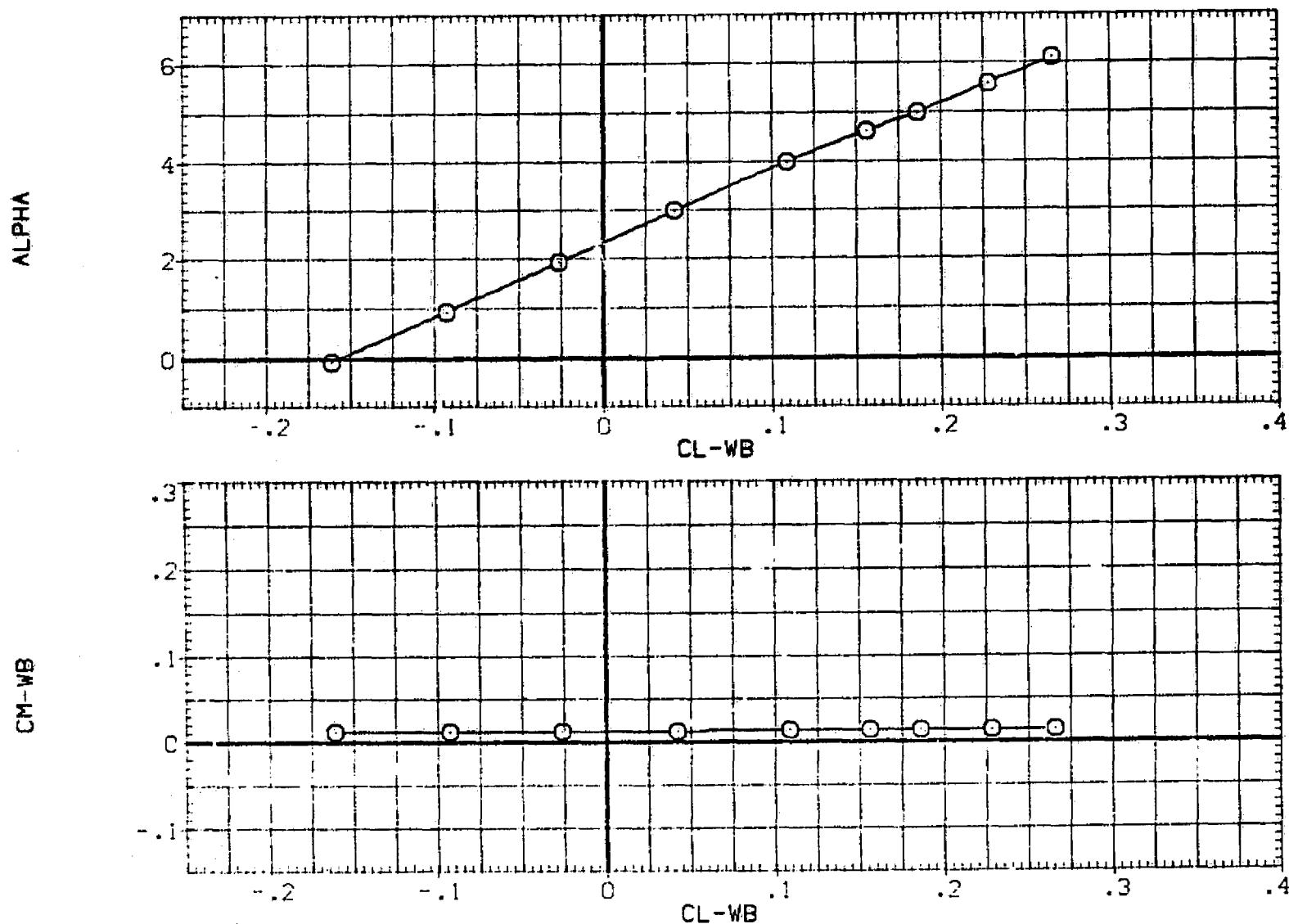


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

COXMACH = 1.10

PAGE 226

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (PAP038) \square (PAP039) \circ (PAP040) \diamond

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.003	.250	.550

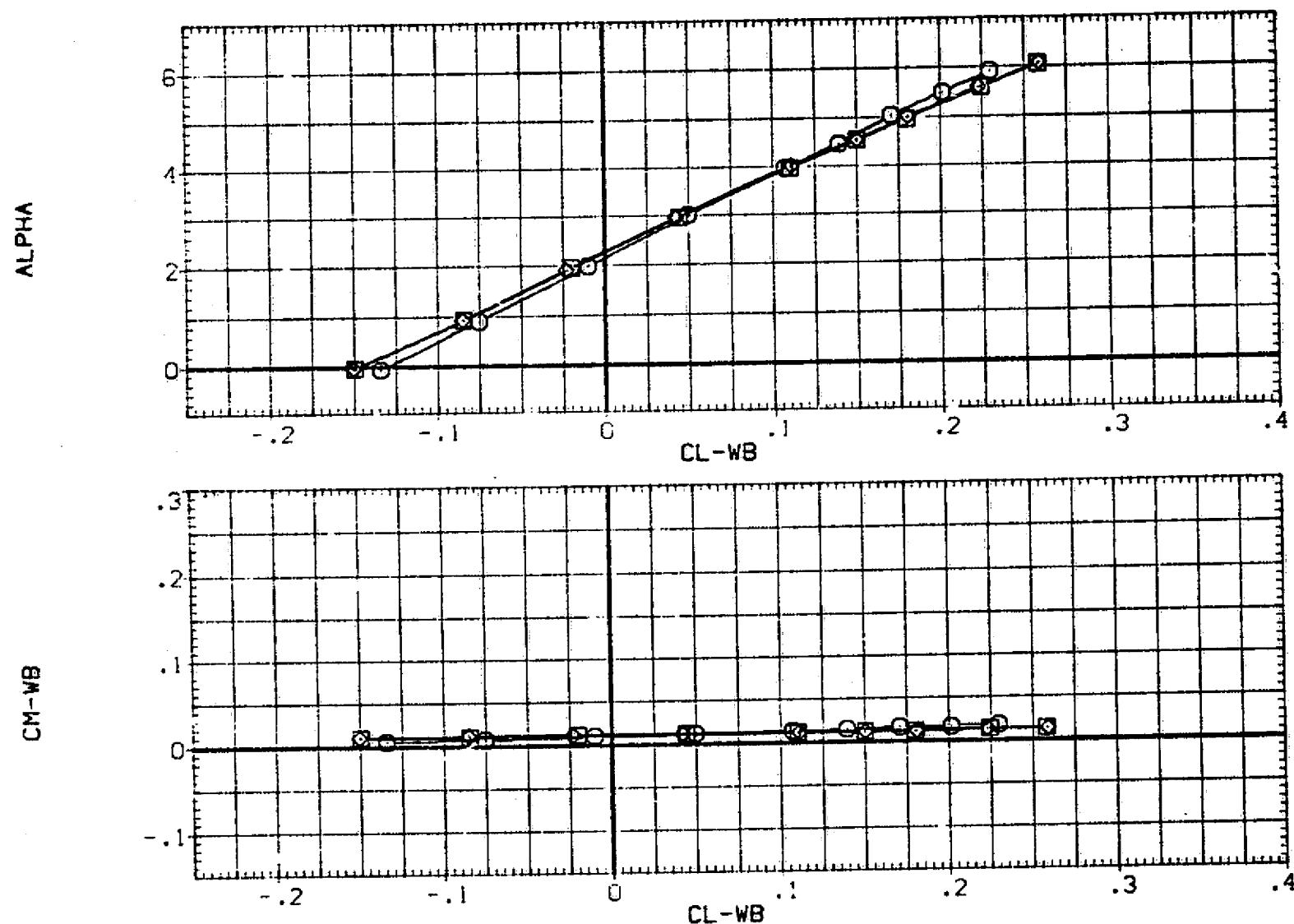


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(DDMACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(CRAP038) \square W B
 (CRAP039) \square DATA NOT AVAILABLE
 (CRAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	ZYI/B	ZYD/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

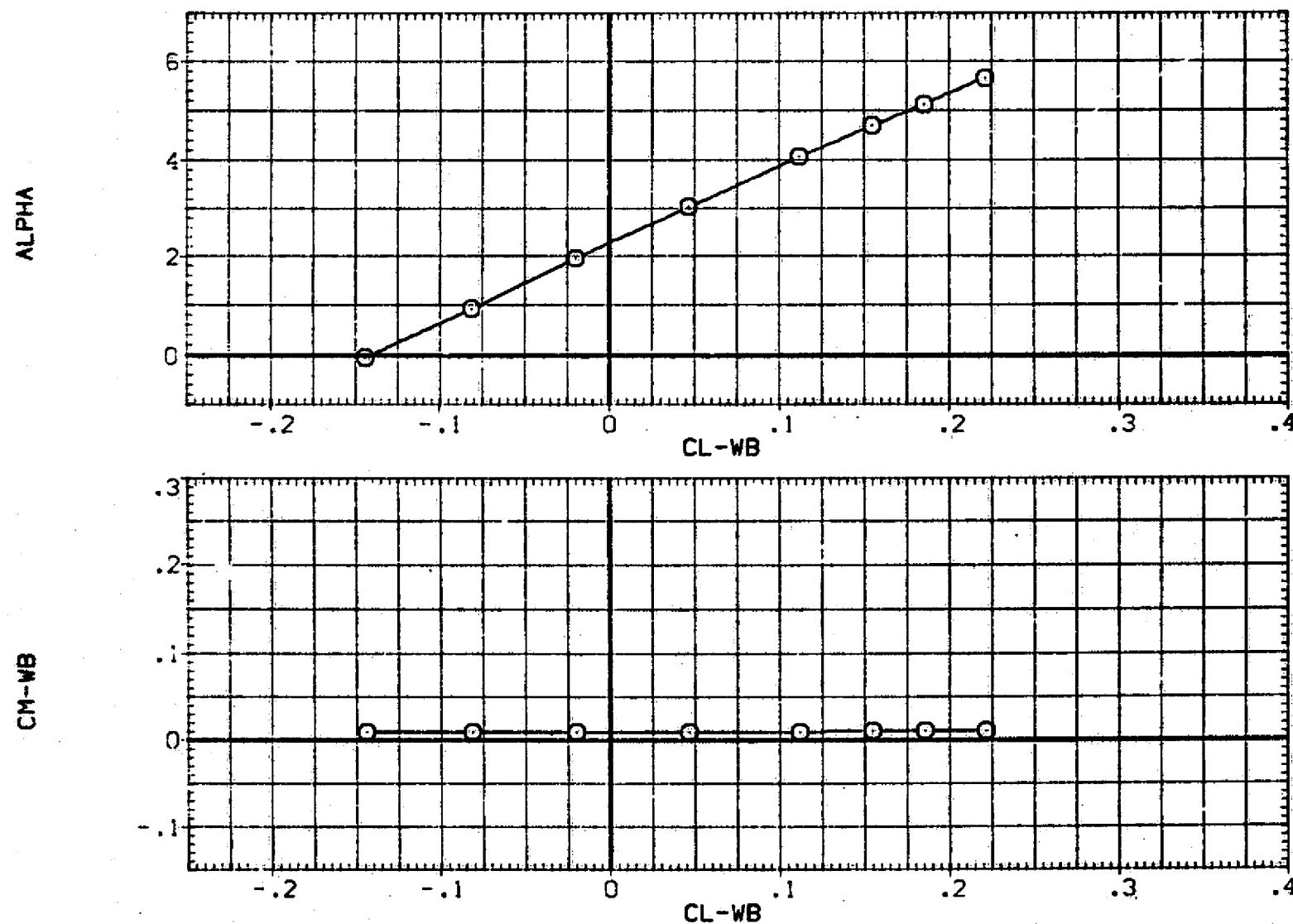


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(E)MACH = 1.20

PAGE 228

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ V-B
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	ZY1/B	ZY0/B
52,000	.000	.250	.550
48,000	.000	.250	.550
40,000	.000	.250	.550

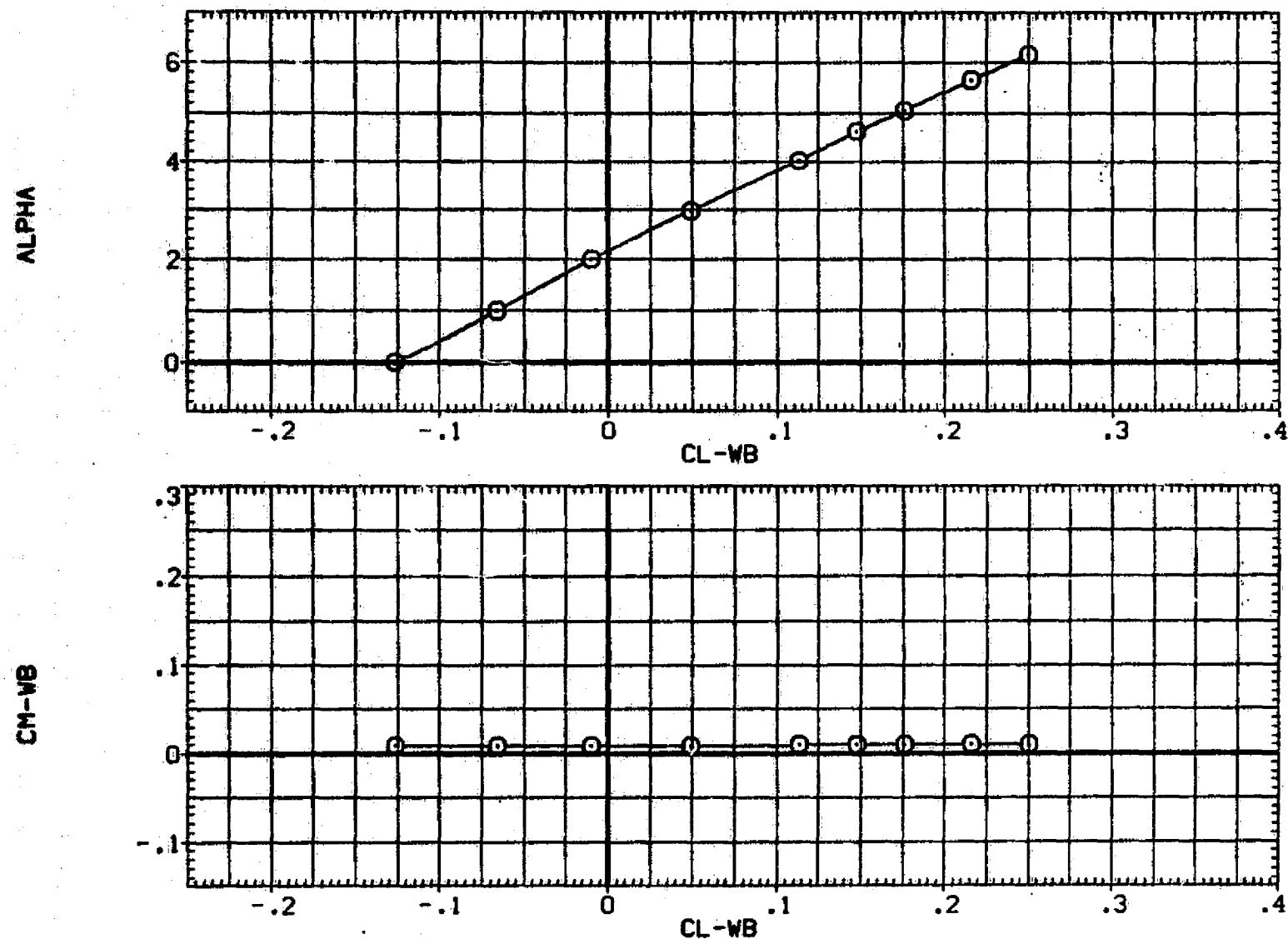


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(F)MACH = 1.30

PAGE 229

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP038) \square V B
 (RAP039) \square V B
 (RAP040) \diamond V B

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

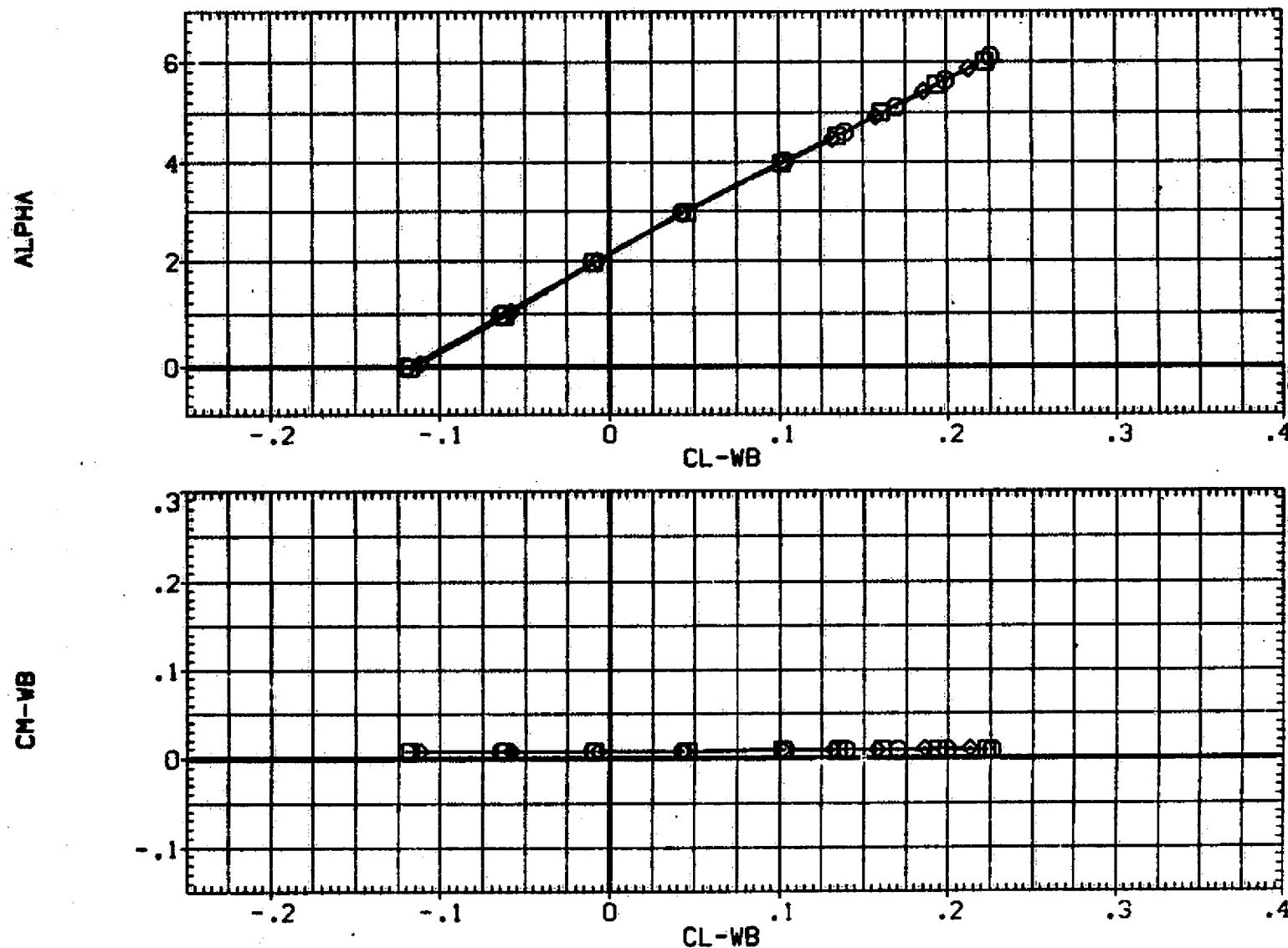


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(G)MACH = 1.40

PAGE 230

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ W B
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

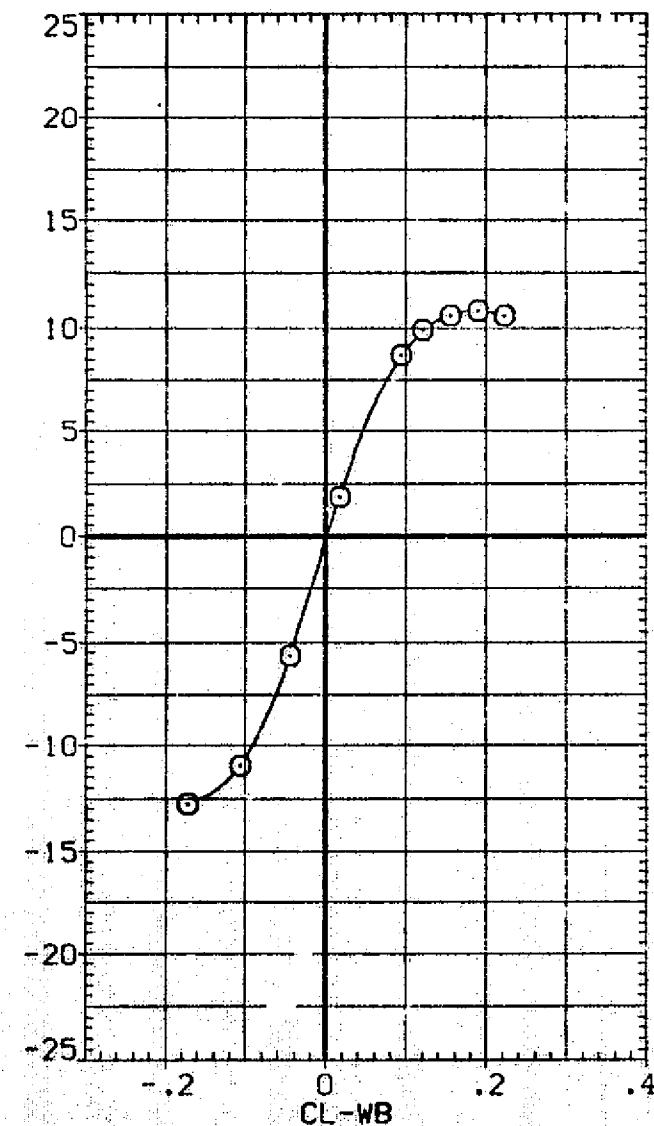
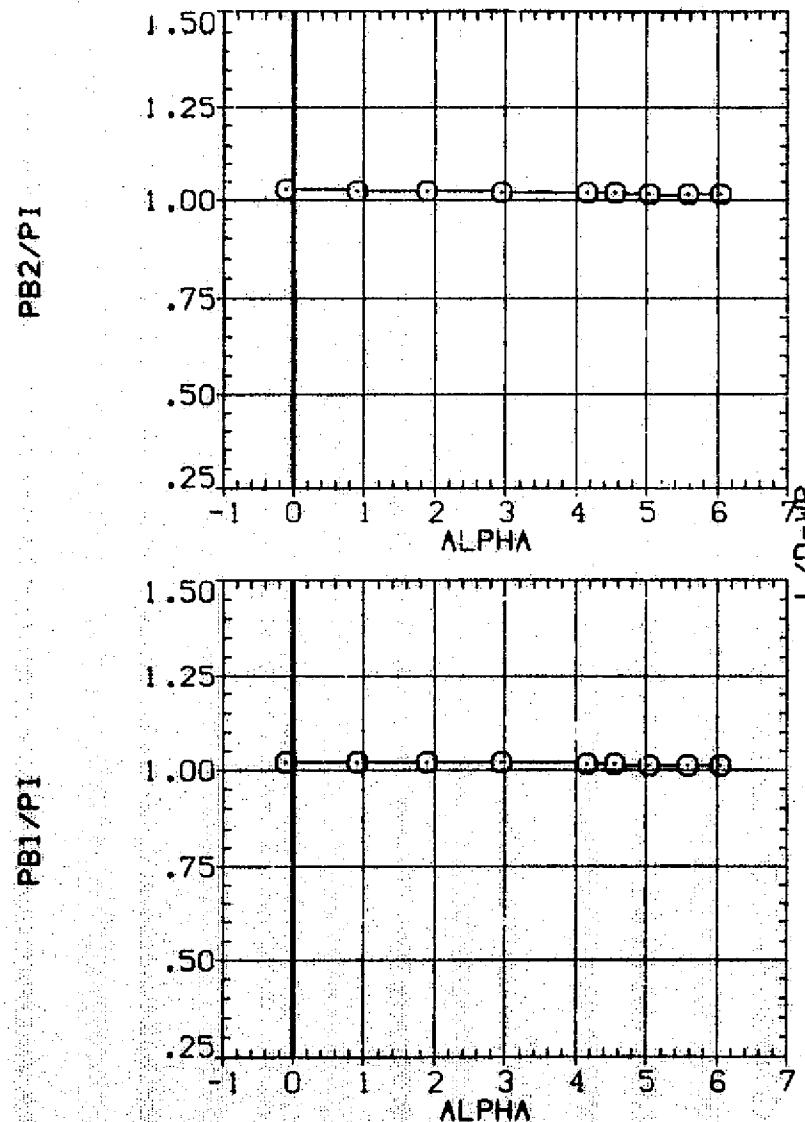


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

CAIMACH = .90

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \square V B
 (RAP039) \square V B
 (RAP040) \diamond V B

X-MA DX 2Y1/B 2Y0/B

52,000	.000	.250	.550
48,000	.000	.250	.550
40,000	.000	.250	.550

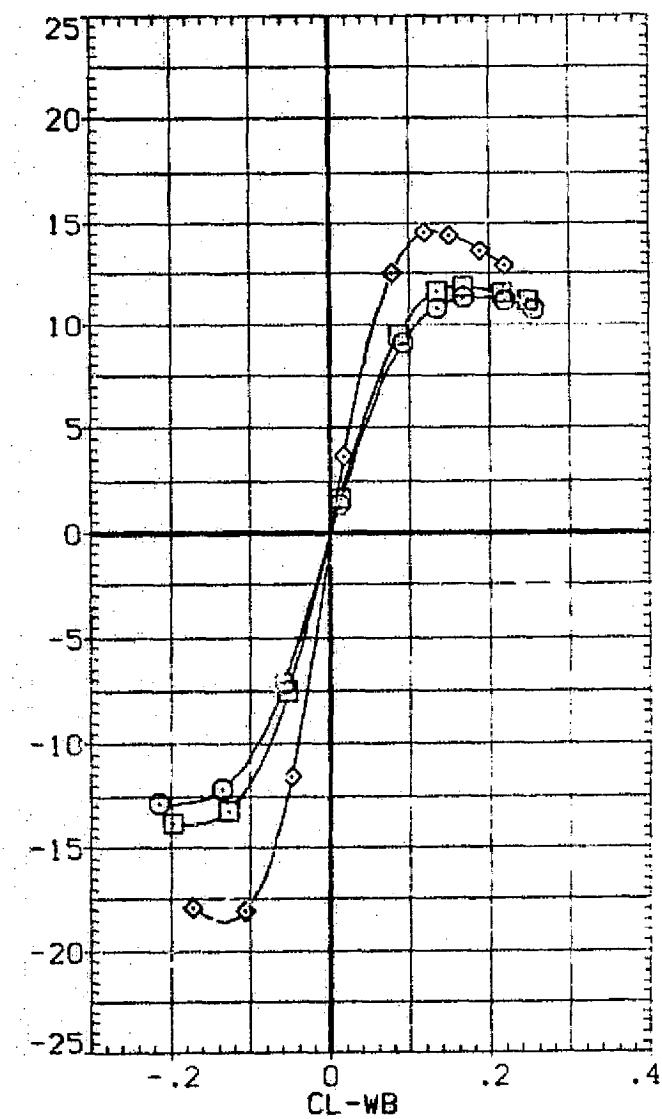
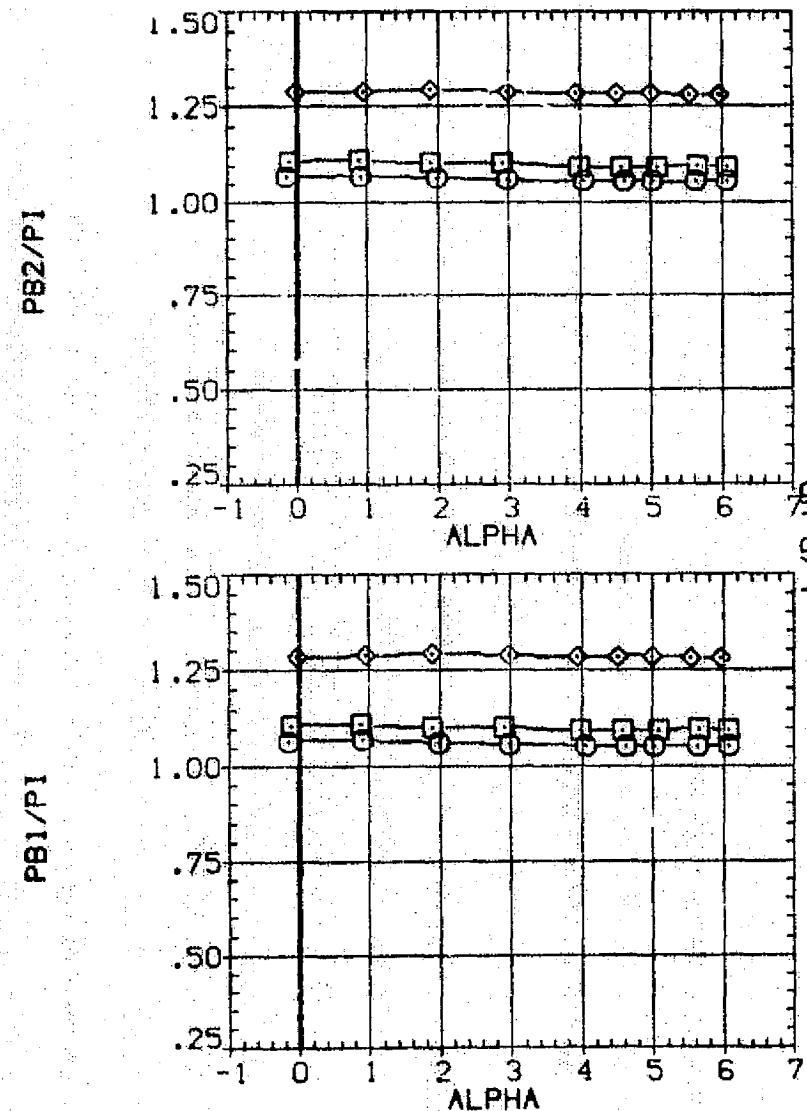


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(B)MACH = .98

PAGE 232

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (RAP038) \square WB
 (RAP039) $\square\triangle$ DATA NOT AVAILABLE
 (RAP040) $\square\triangle$ DATA NOT AVAILABLE

X-MA	DX	2Y1/B	2Y0/B
52.000	.000	.250	.550
48.000	.000	.250	.560
40.000	.000	.250	.550

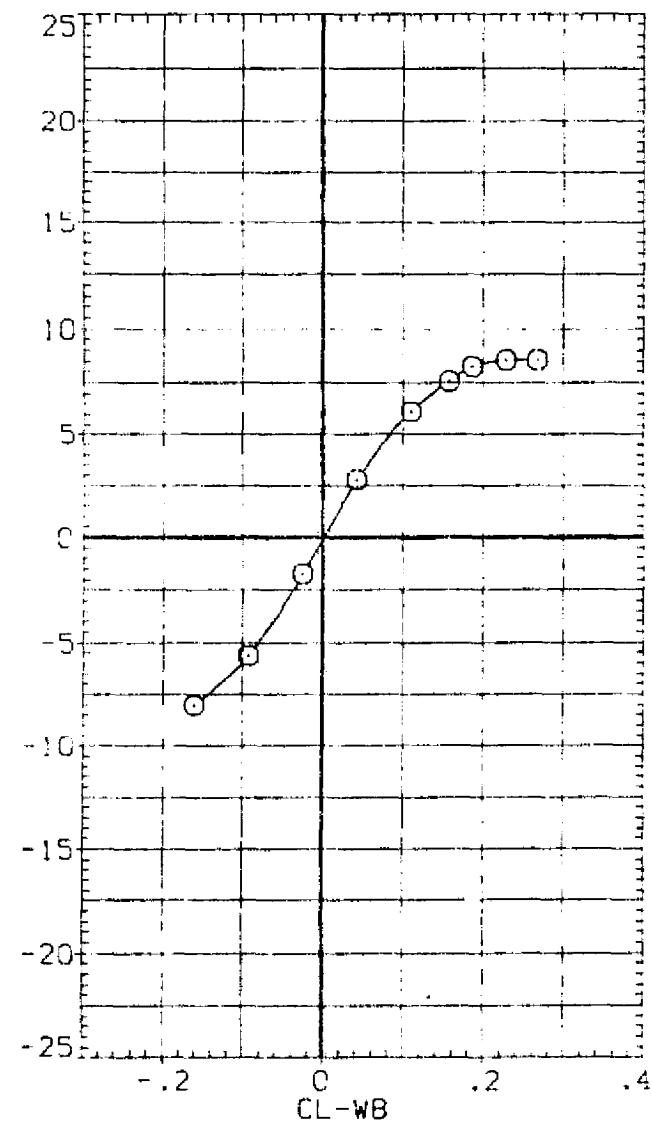
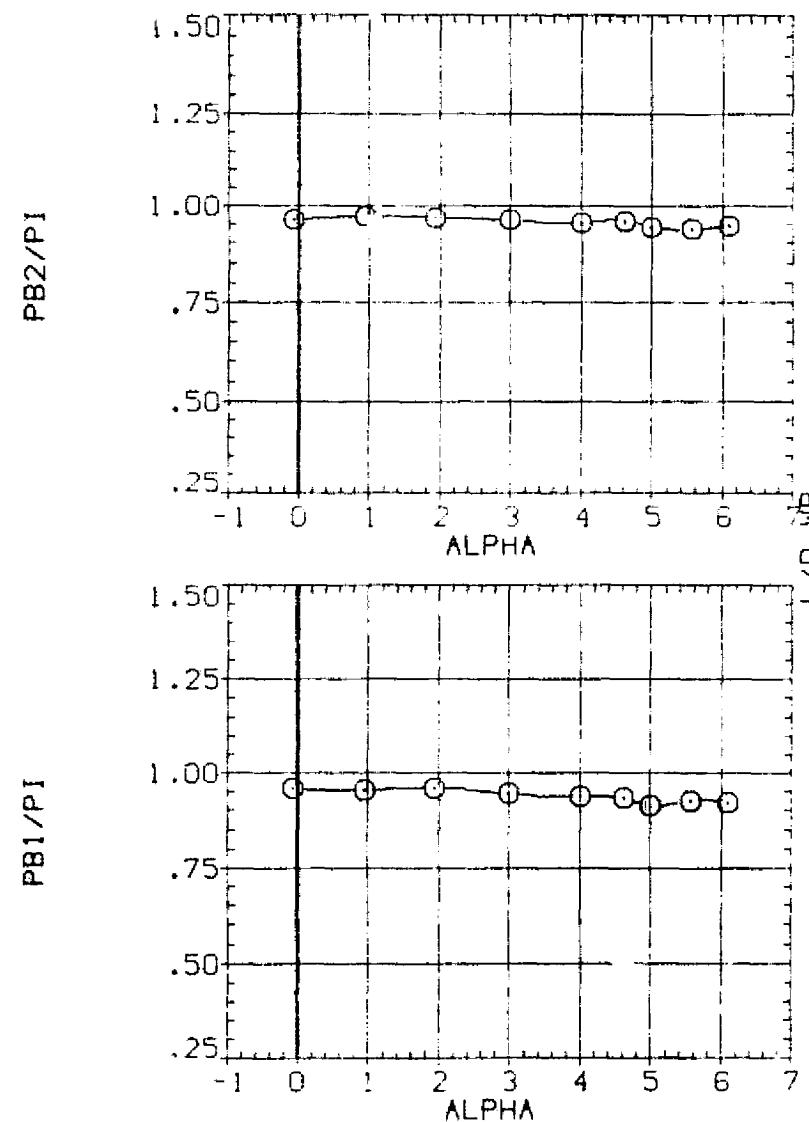


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

COMACH = 1.10

PAGE 233

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \circ
 (RAP039) ∇
 (RAP040) \diamond

X-MA DX 2Y1/B 2Y0/B

52,000 :000 :250 :550
 48,000 :000 :250 :550
 40,000 :000 :250 :550

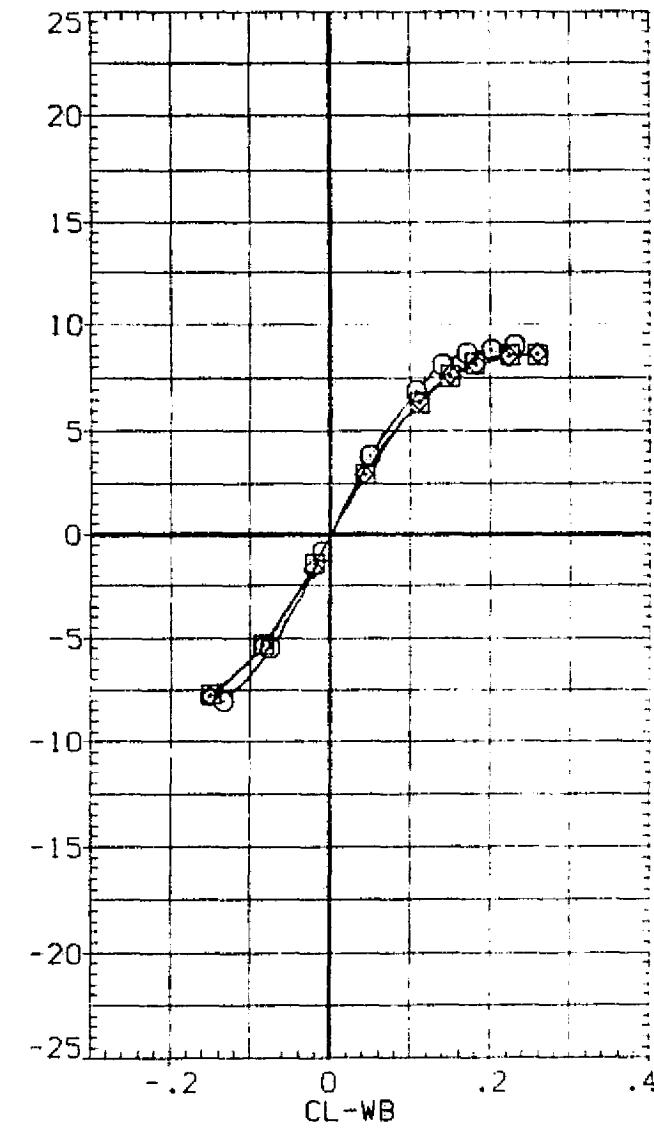
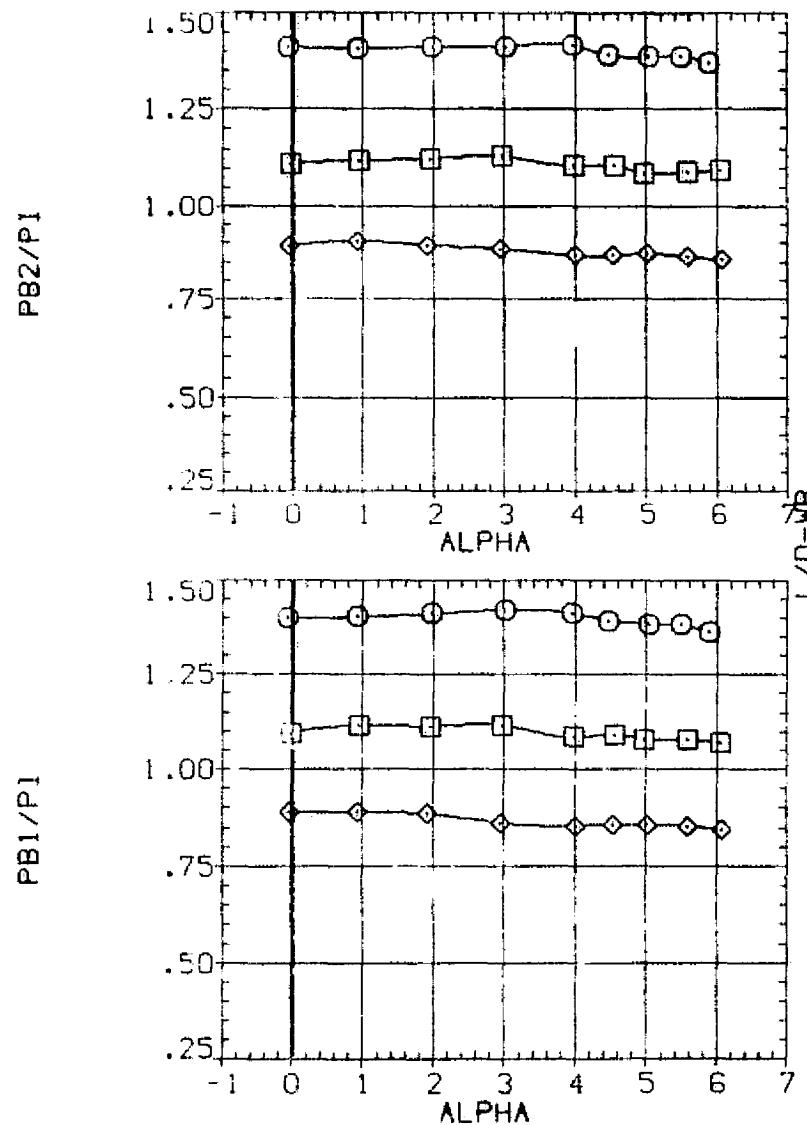


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(D)MACH = 1.15

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \square V B
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	DX	ZY1/B	ZY0/B
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

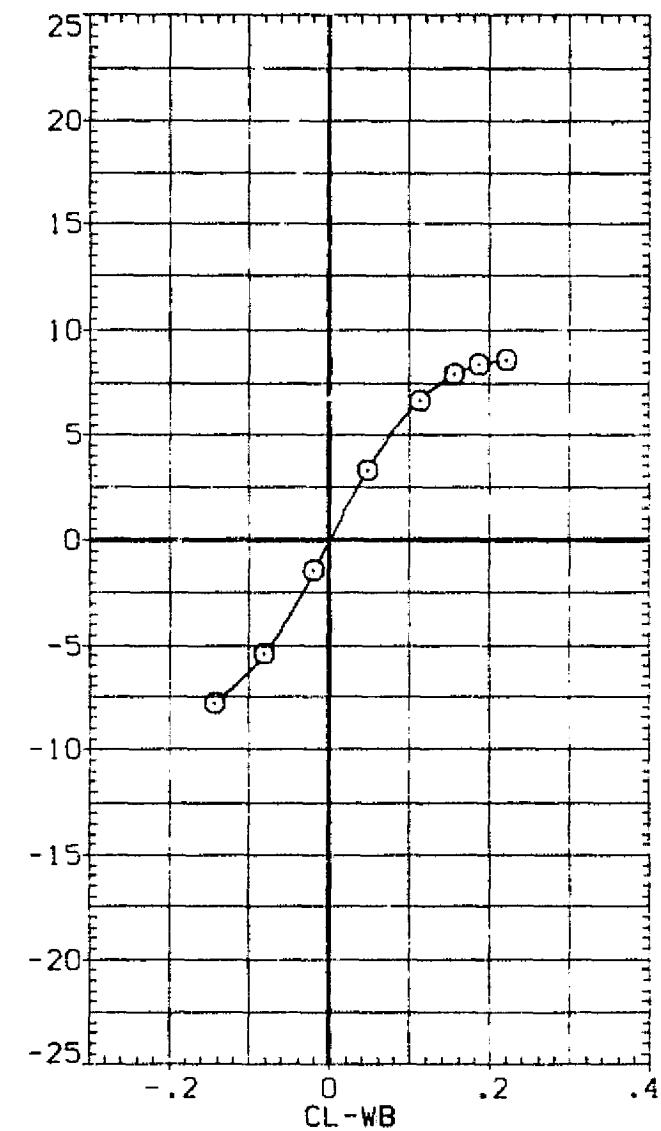
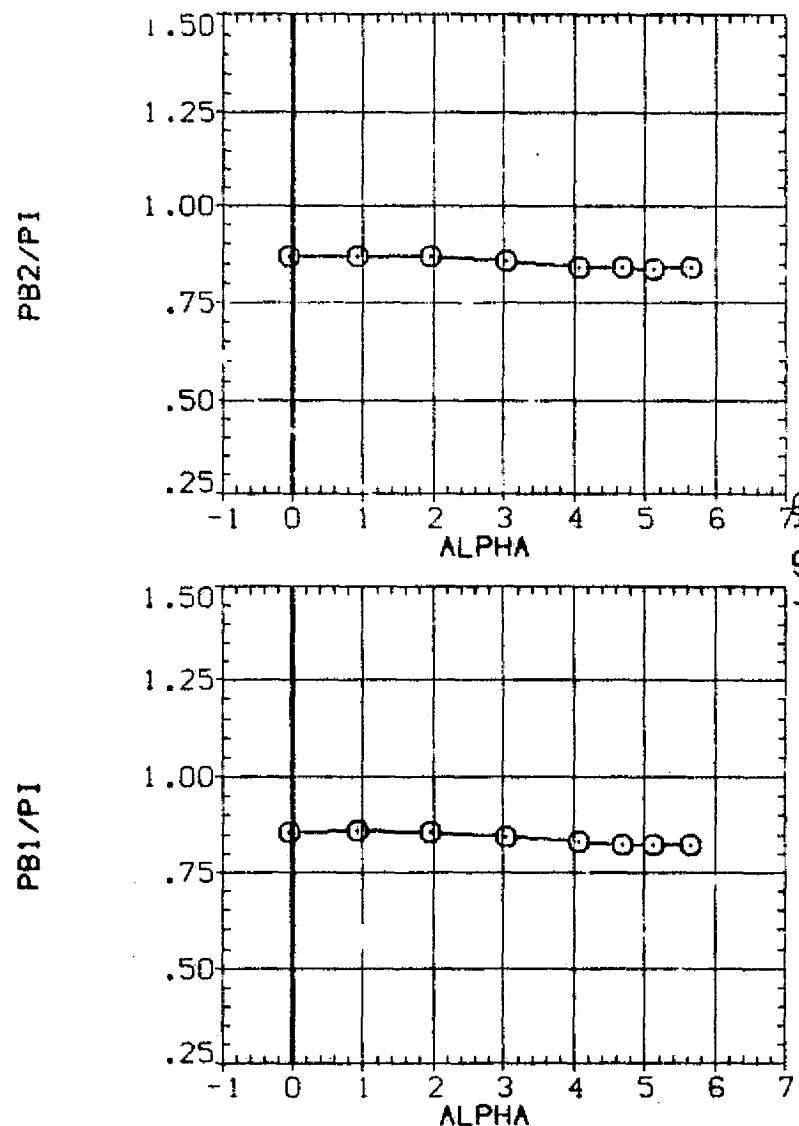


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(E)MACH = 1.20

PAGE 235

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038) \bigcirc WB
 (RAP039) \square DATA NOT AVAILABLE
 (RAP040) \diamond DATA NOT AVAILABLE

X-MA	Dx	2Y1/B	2Y0/B
52.000	.000	.250	.550
49.000	.000	.250	.550
40.000	.000	.250	.550

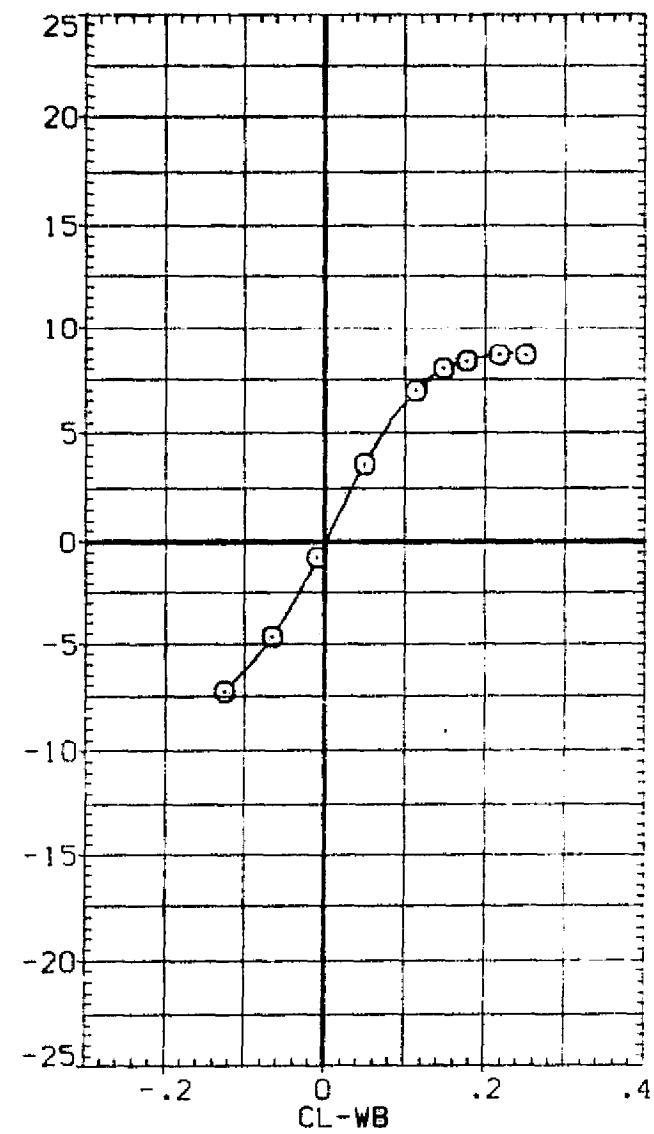
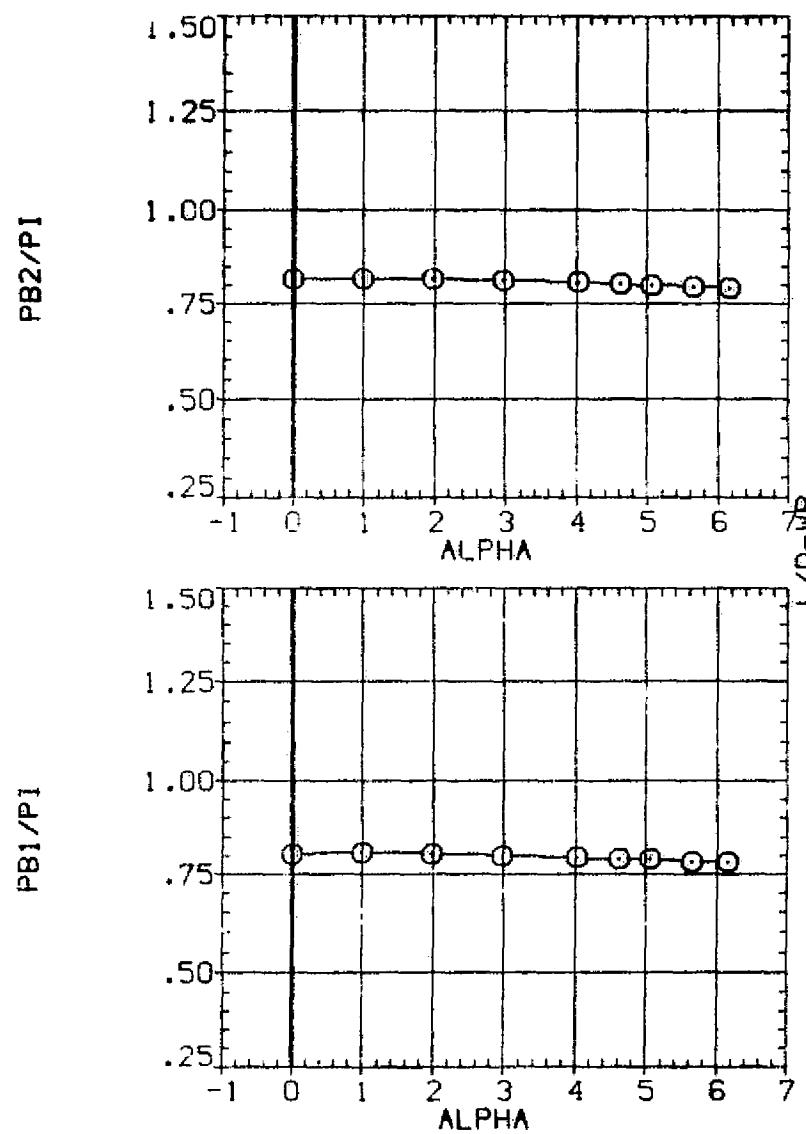


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

(F0)MACH = 1.30

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(RAP038)	○	V B
(RAP039)	□	V B
(RAP040)	○	V B

X-MA	DX	2Y1/W	2Y0/W
52.000	.000	.250	.550
48.000	.000	.250	.550
40.000	.000	.250	.550

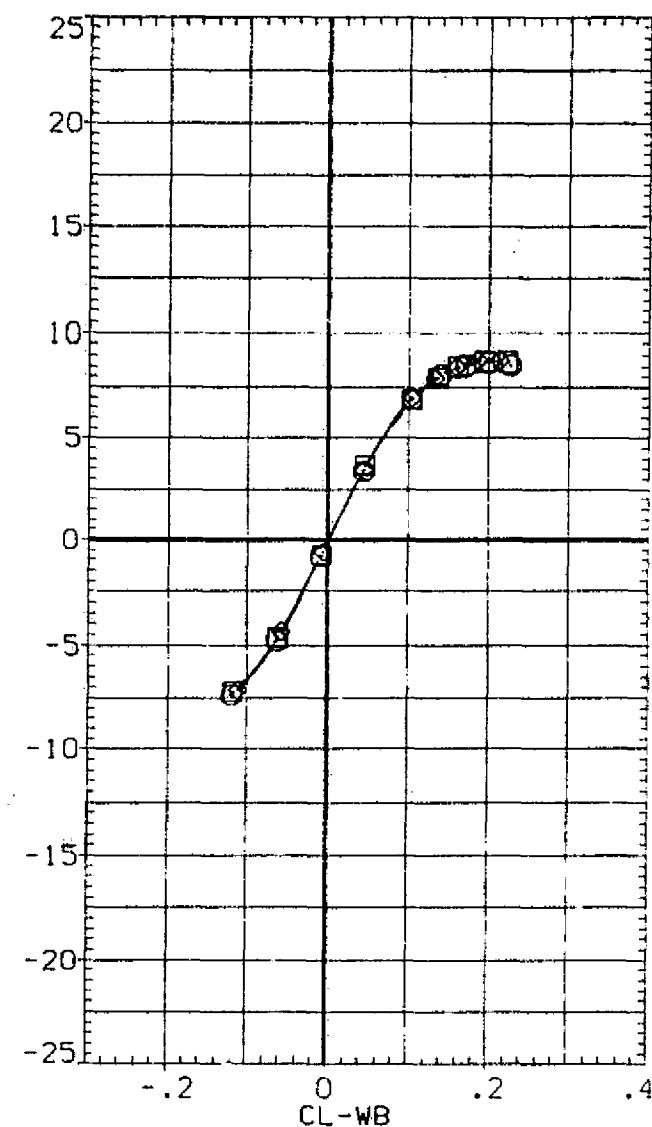
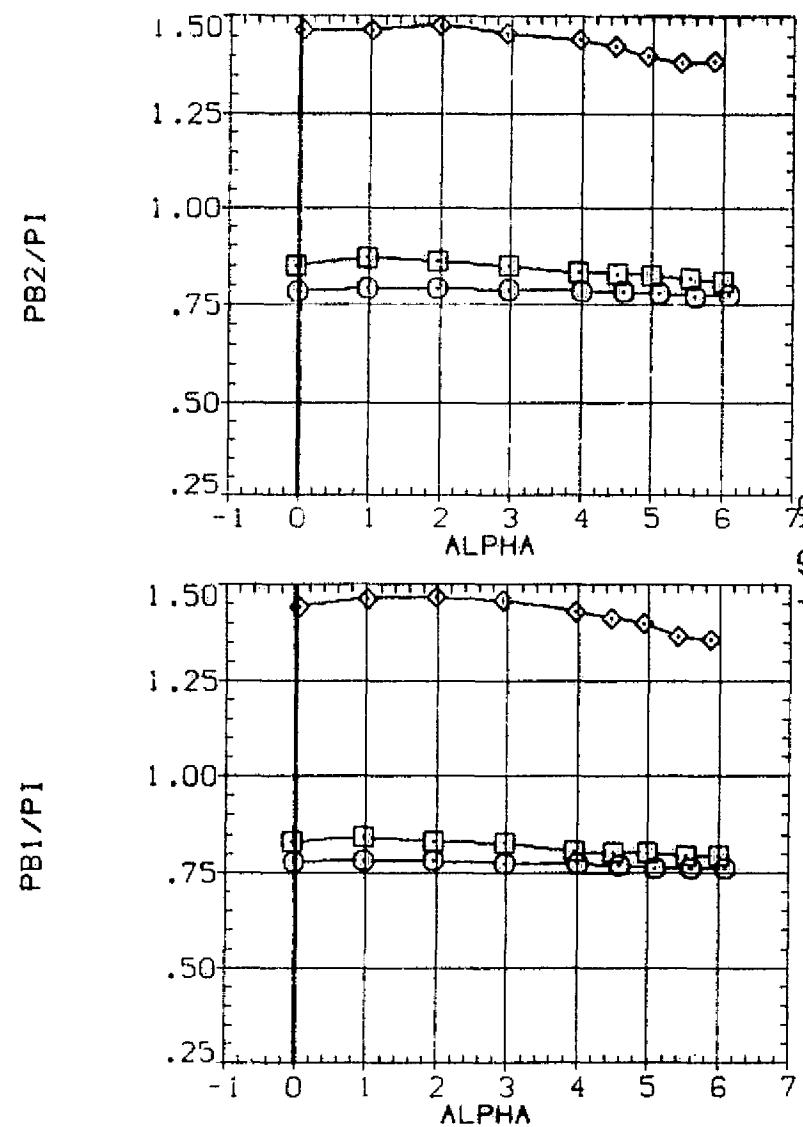


FIG. 15 EFFECTS OF ANGLE OF ATTACK ON ISOLATED WING BODY FORCES.

CGMACH = 1.40

W B

SYMBOL	MACH	PARAMETRIC VALUES
O	.899	.000 2YB/B .550
	DX	.250
	2Y1/B	

(RAP041)

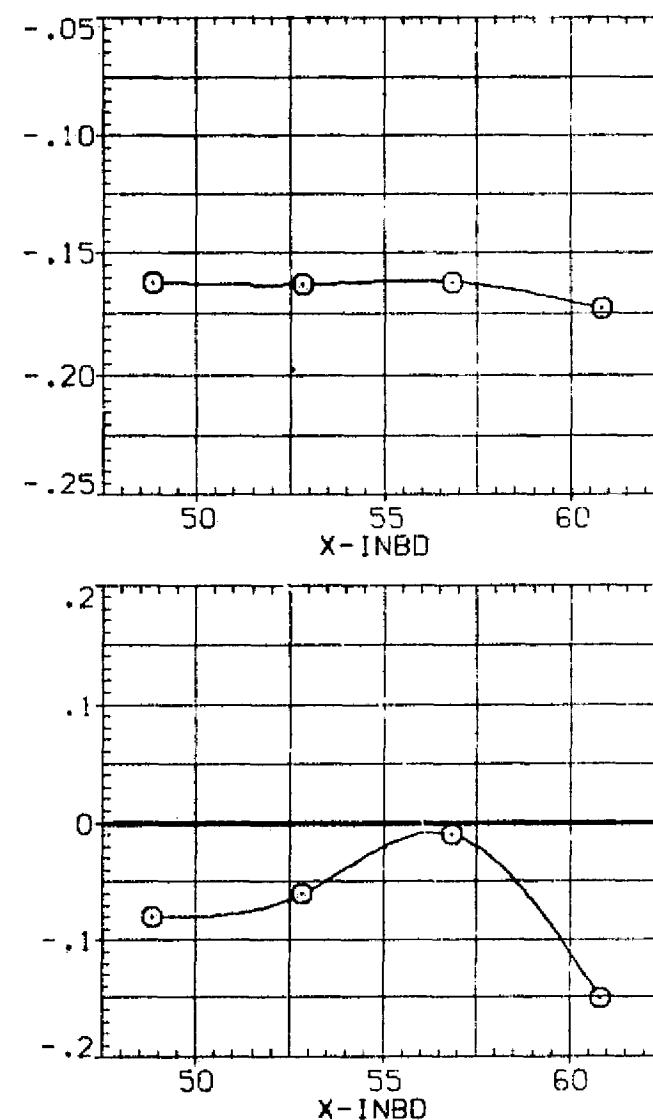
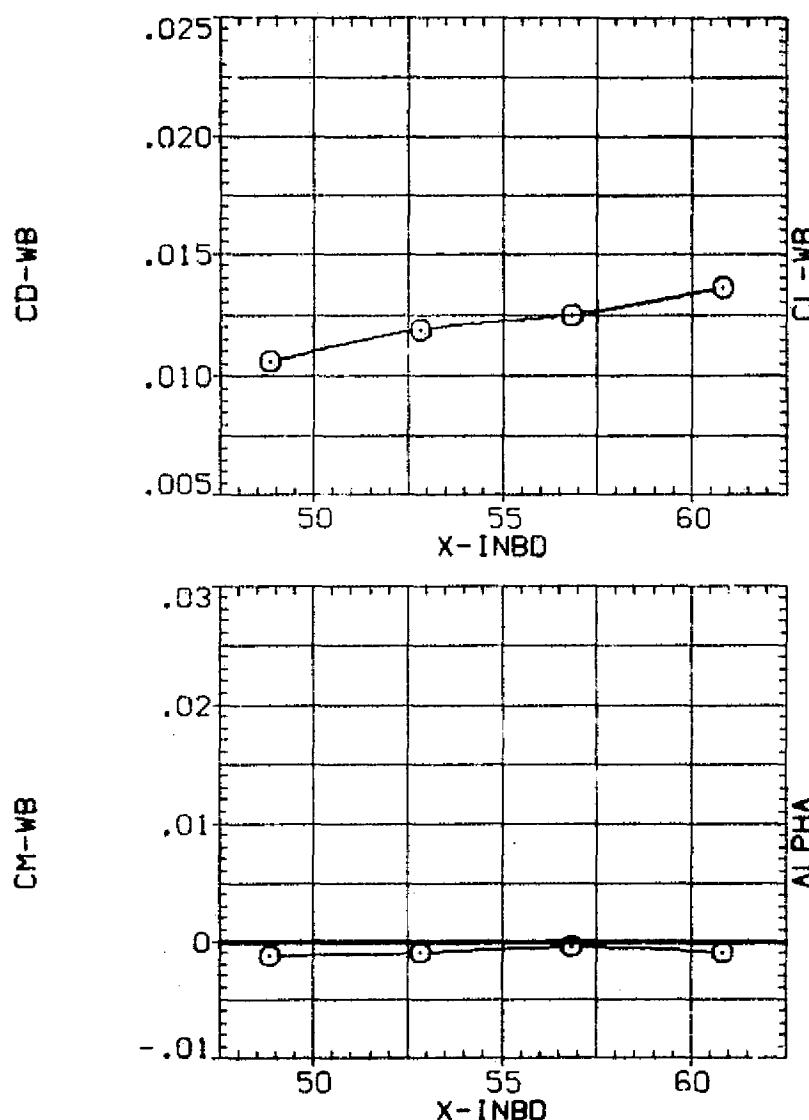


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W-B
SYMOL MACH 1.875 1.9178 2.0178
PARAMETRIC VALUES 1.000 2.000 0.560

(RAPO41)

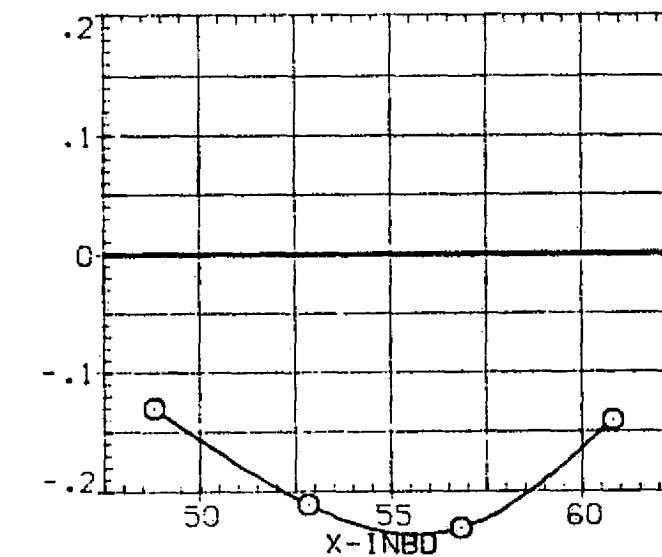
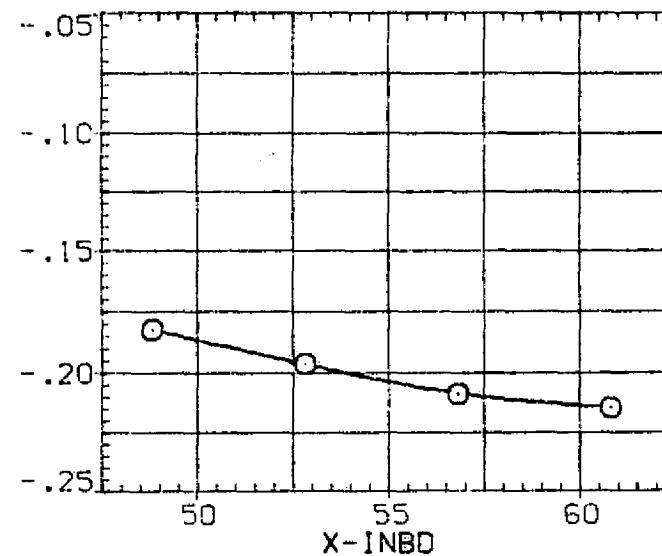
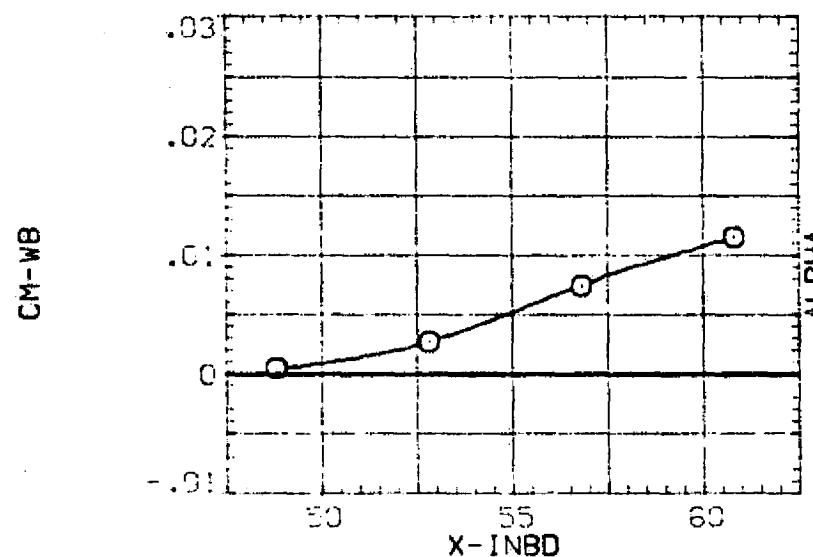
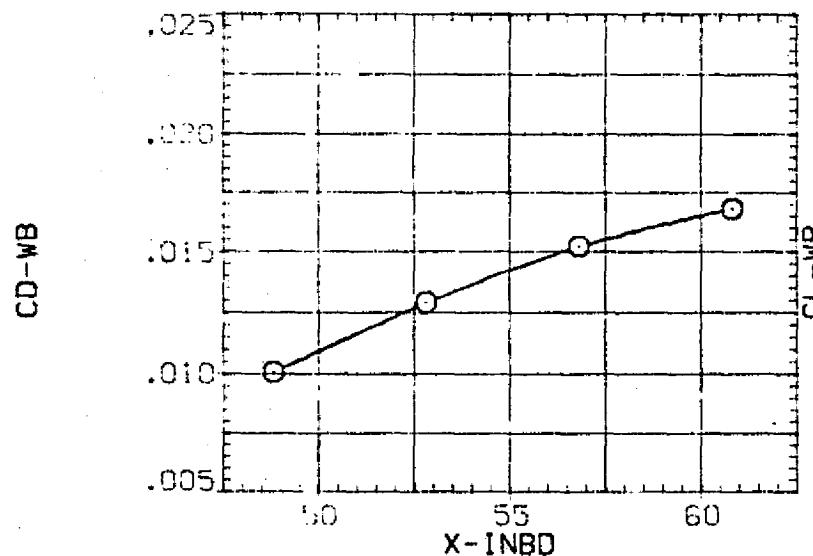


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL
OMACH
1.100
DX
2Y1/8PARAMETRIC VALUES
.000 2Y0/8
.250

(RAP041)

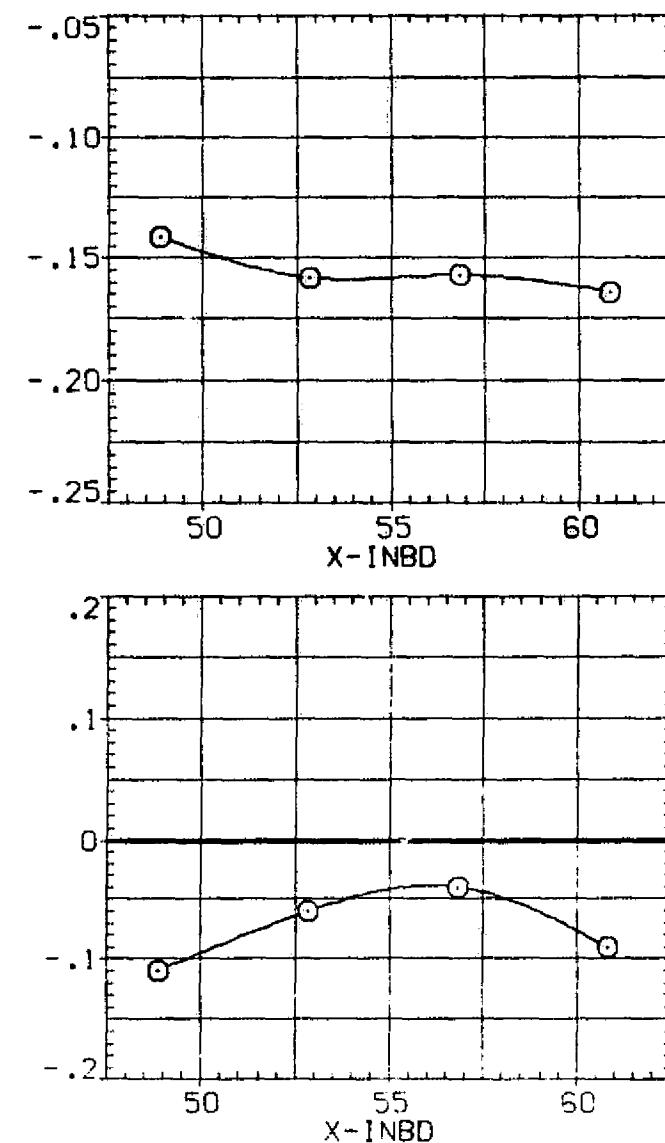
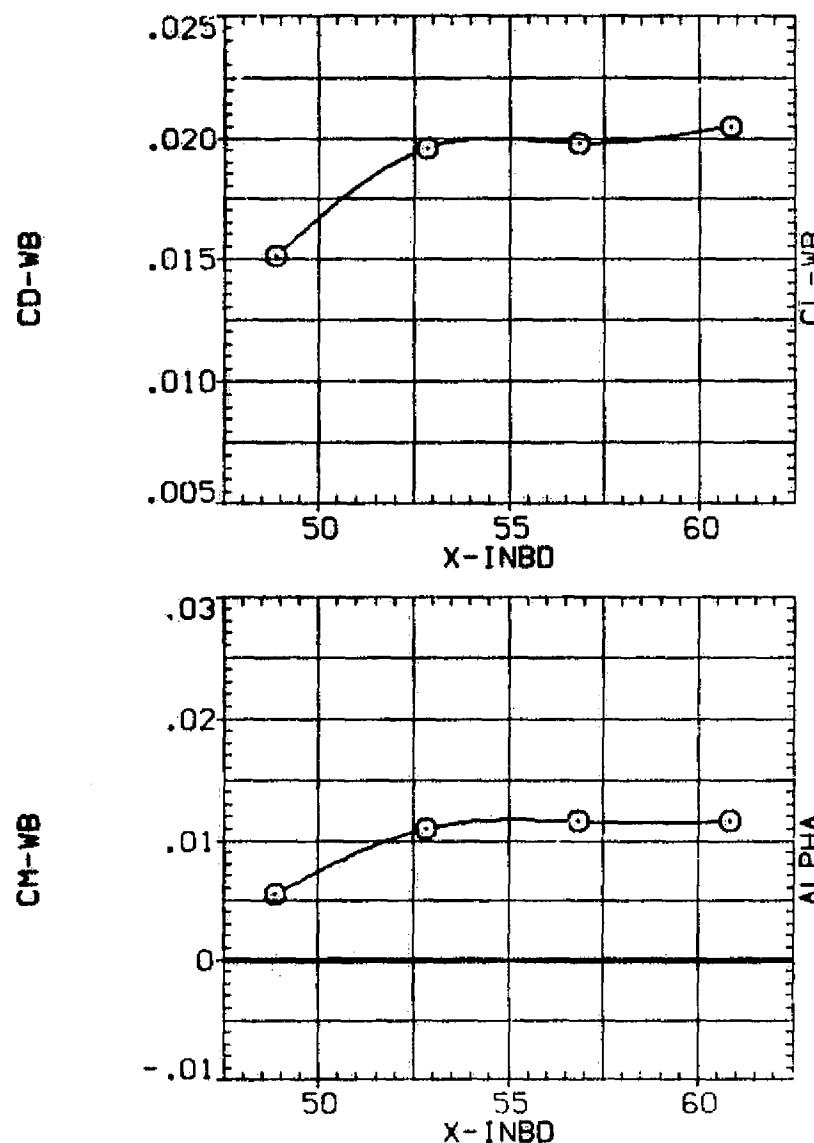


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

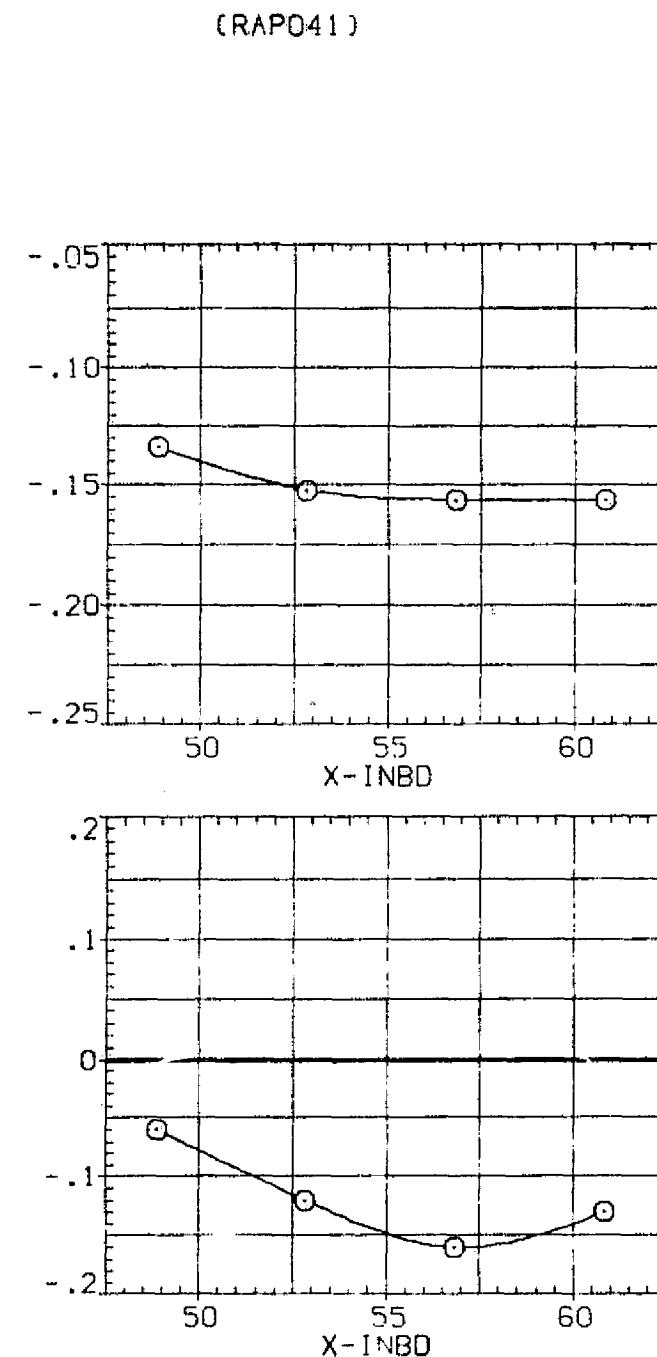
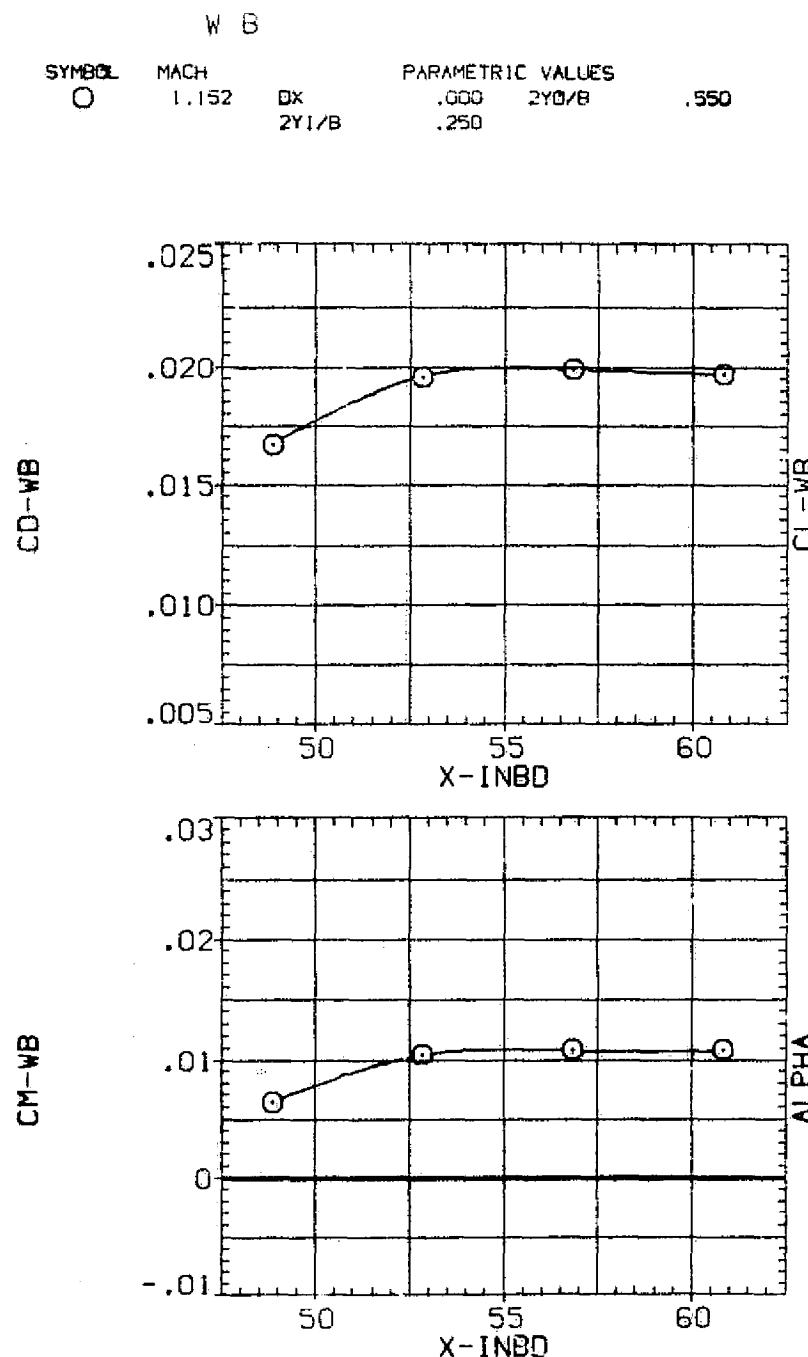


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH
 O 1.199 DX
 2Y1/8

PARAMETRIC VALUES
 .600 2Y0/8 .550
 .250

(RAP041)

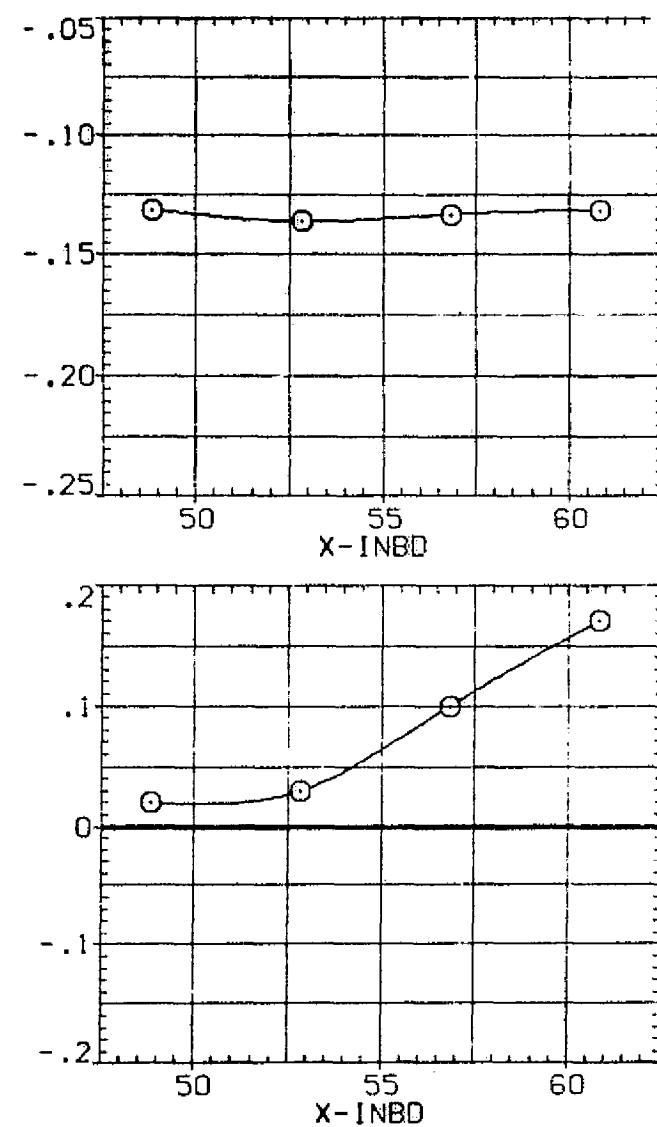
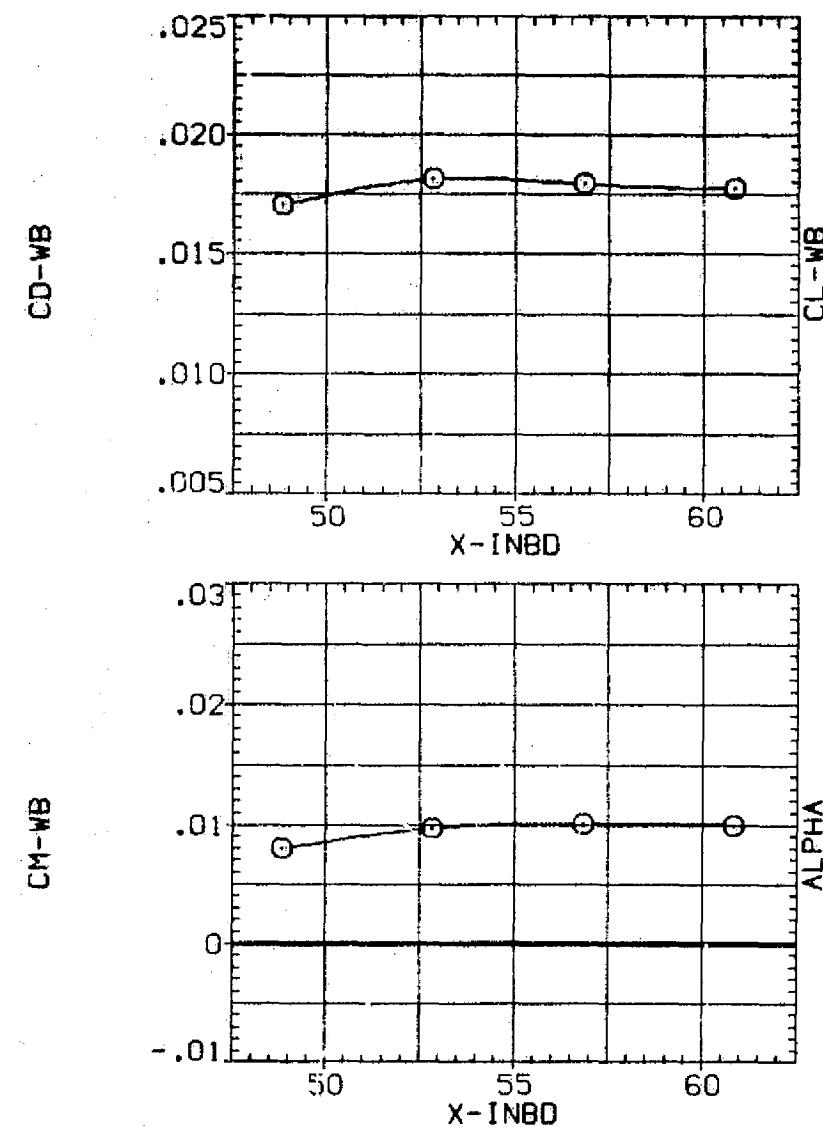
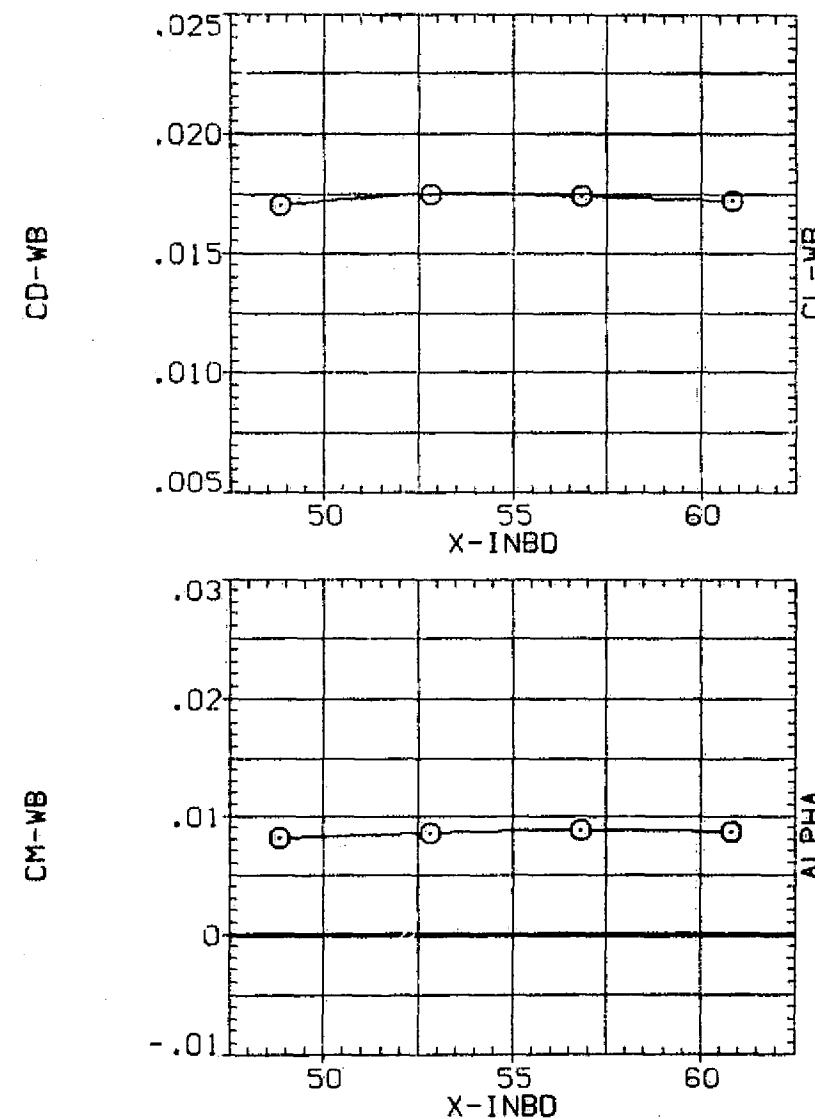


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH PARAMETRIC VALUES
 O 1,300 .000 .550
 2Y1/8 DX 2Y0/8 .250



(RAP041)

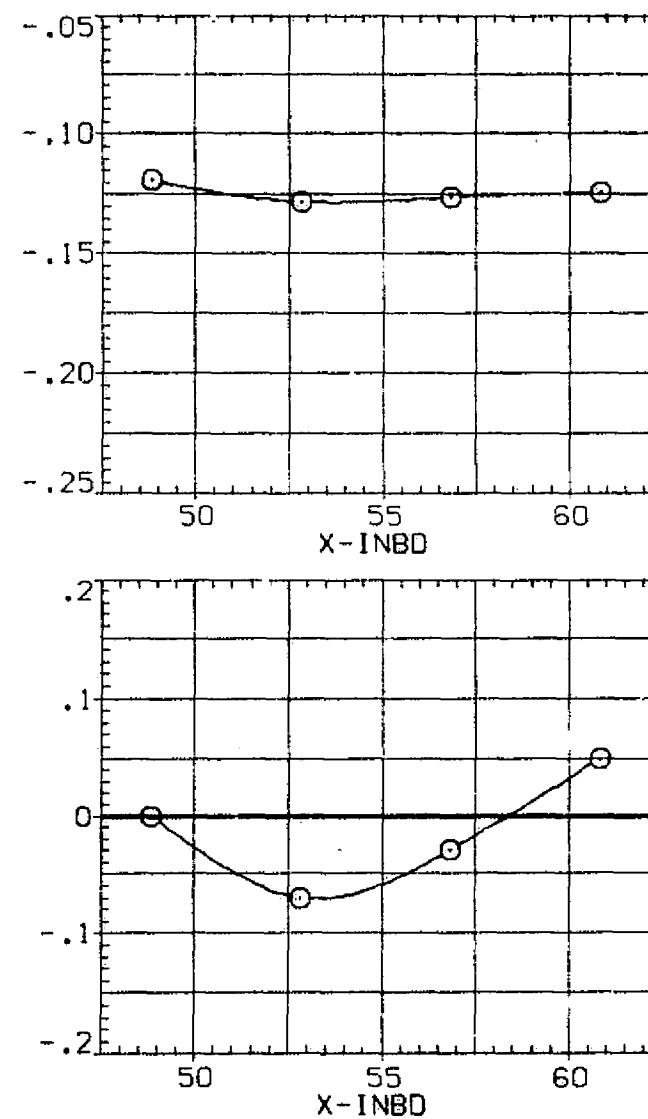


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH PARAMETRIC VALUES
 O 1.400 DX .000 2Y3/B .550
 2Y1/B .250

(RAPO41)

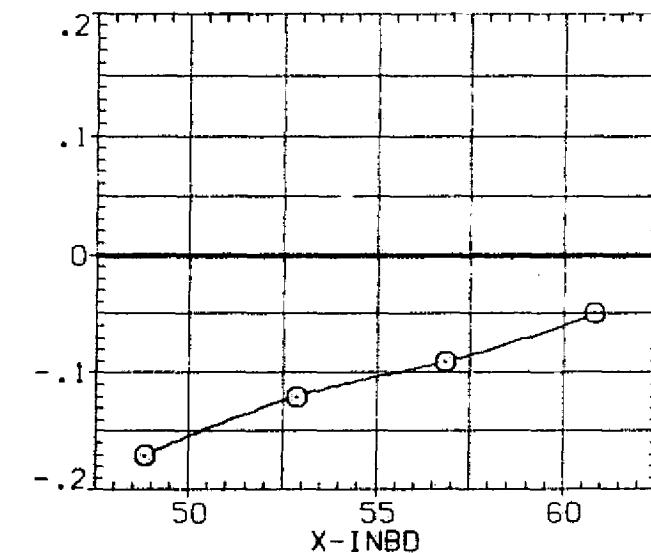
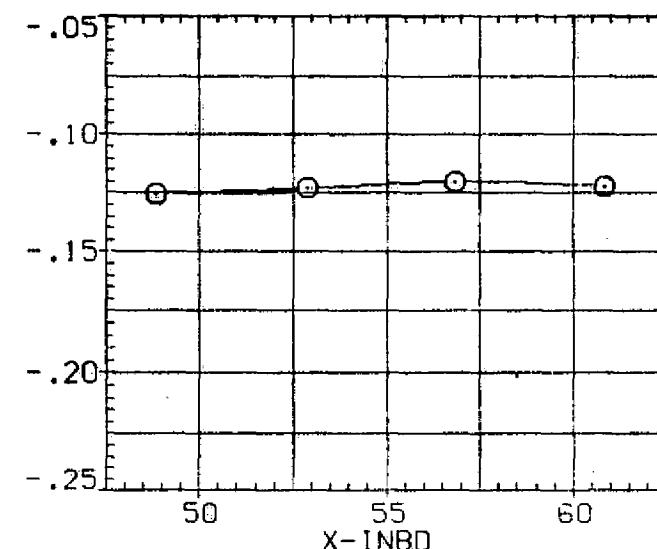
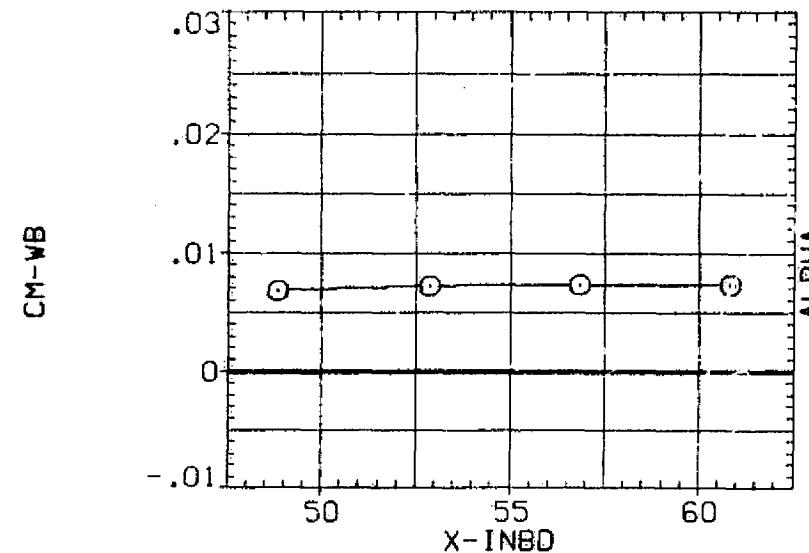
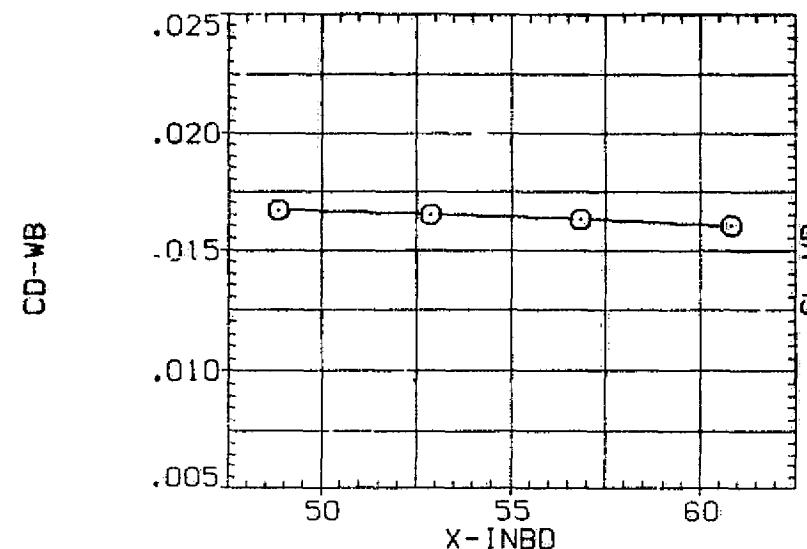
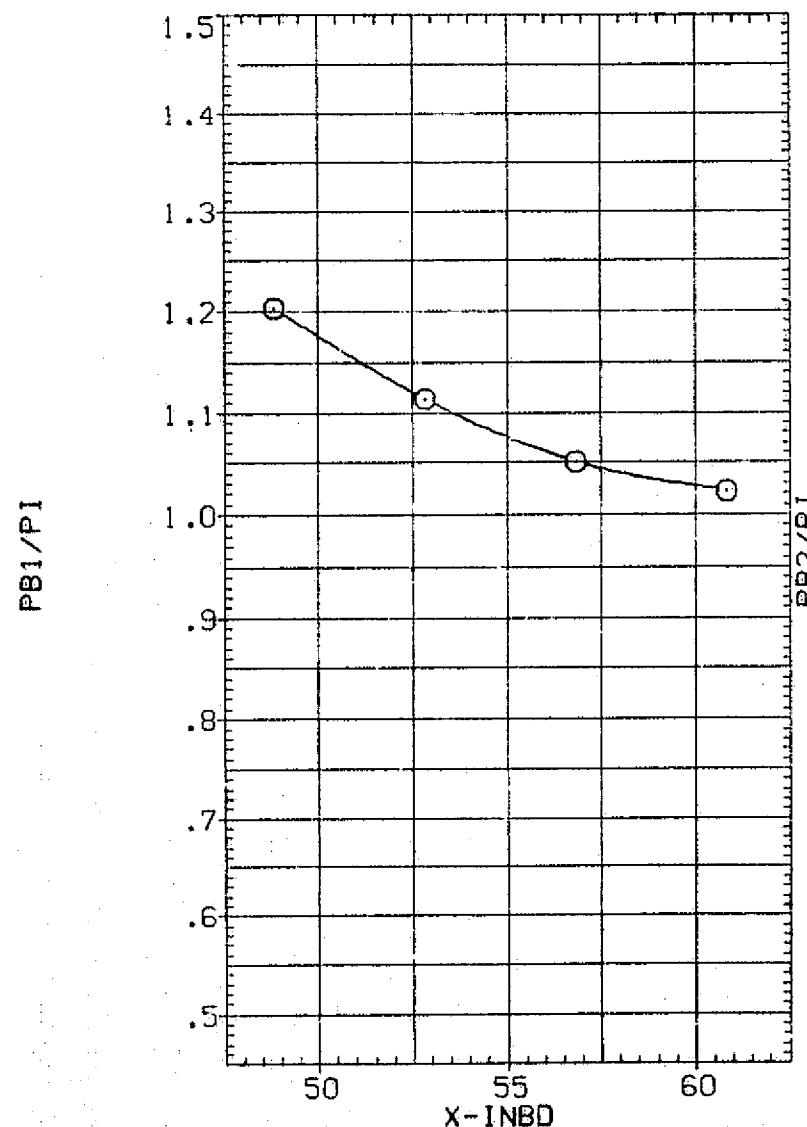


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH PARAMETRIC VALUES
O .899 DX .000 2Y0/B .550
2Y1/B .250



(RAP041)

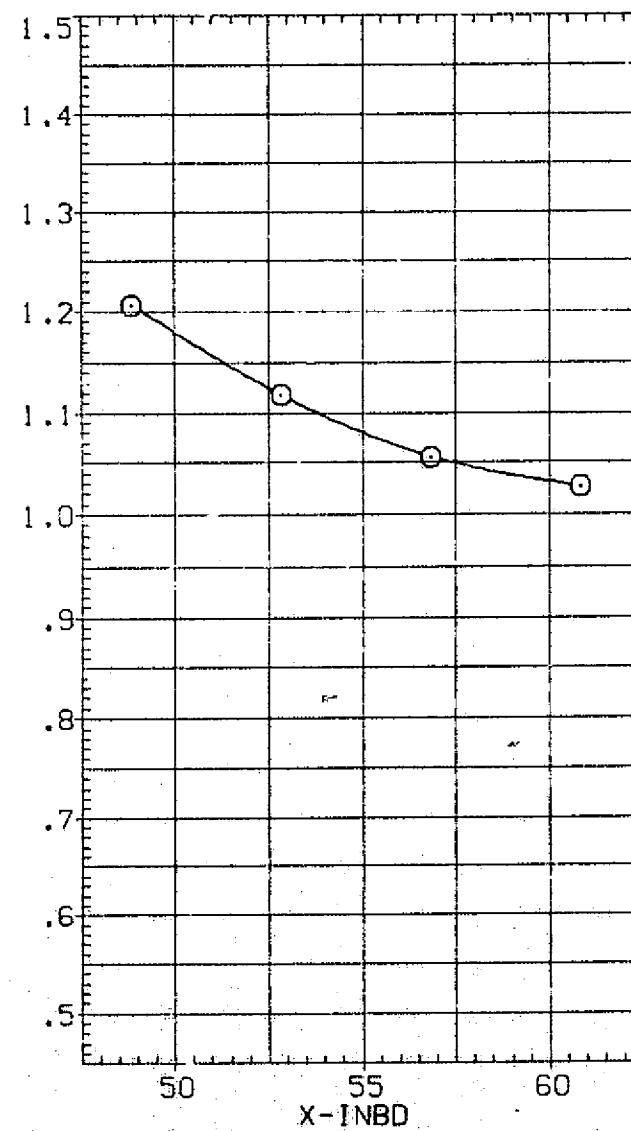


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W 5

(RAP041)

SYMB: MACH
O .979

DX .000

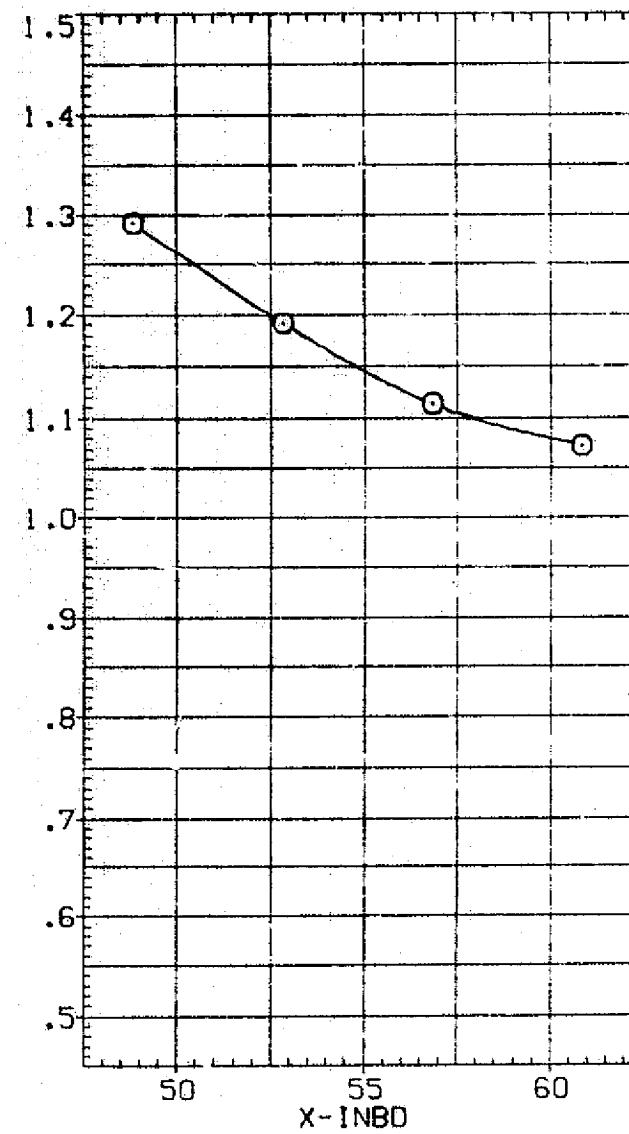
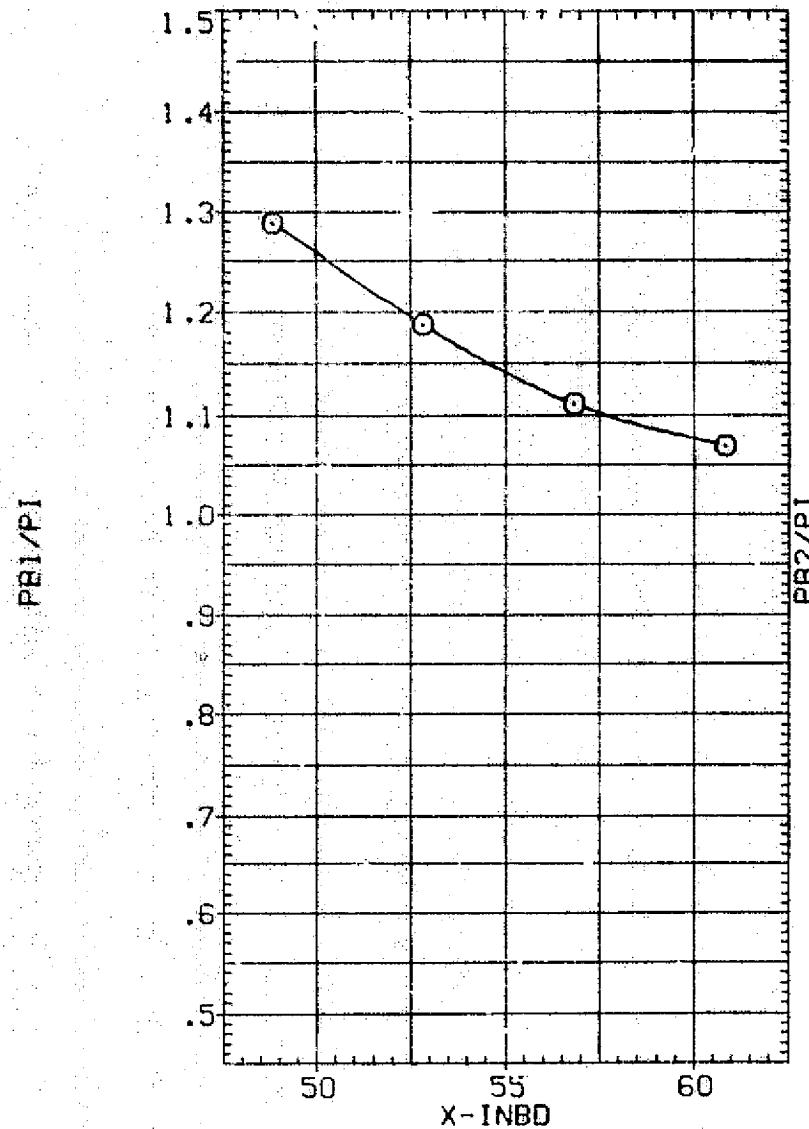
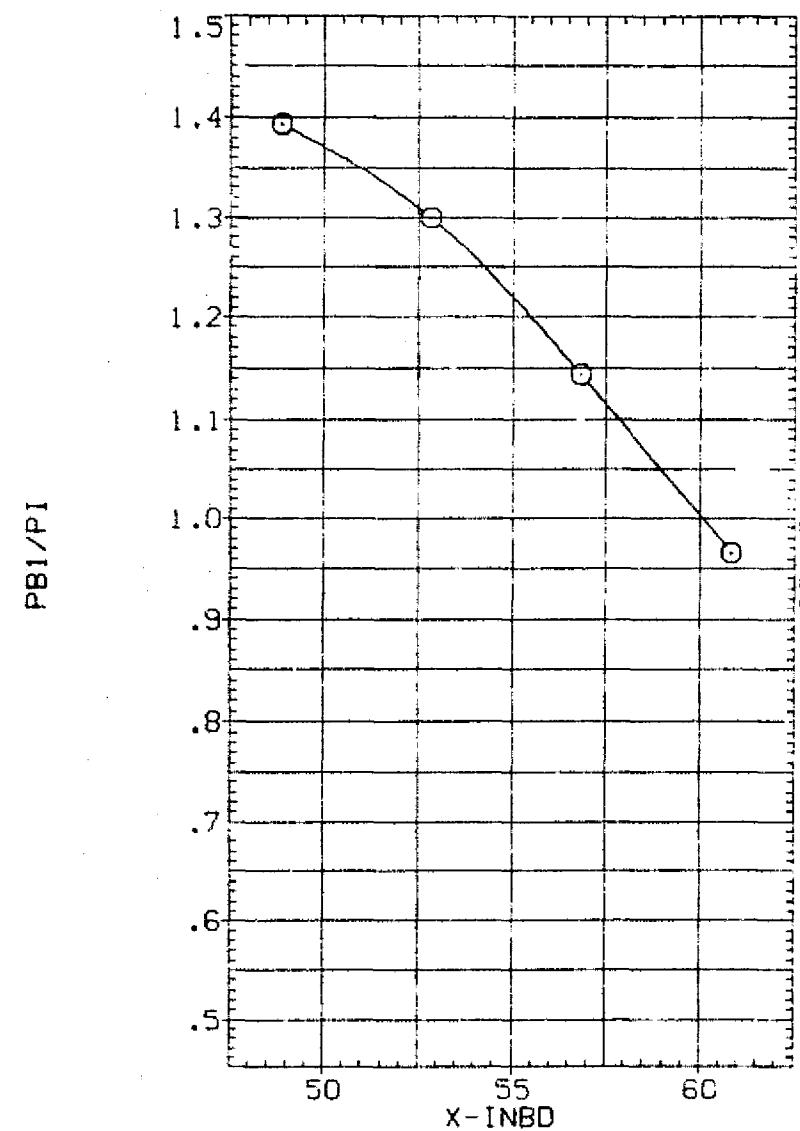
PARAMETRIC VALUES
2Y1/B .550
2Y1/B .250

FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH PARAMETRIC VALUES
 O 1.100 DX .000 2Y0/B .550
 2Y1/B .250



(RAP041)

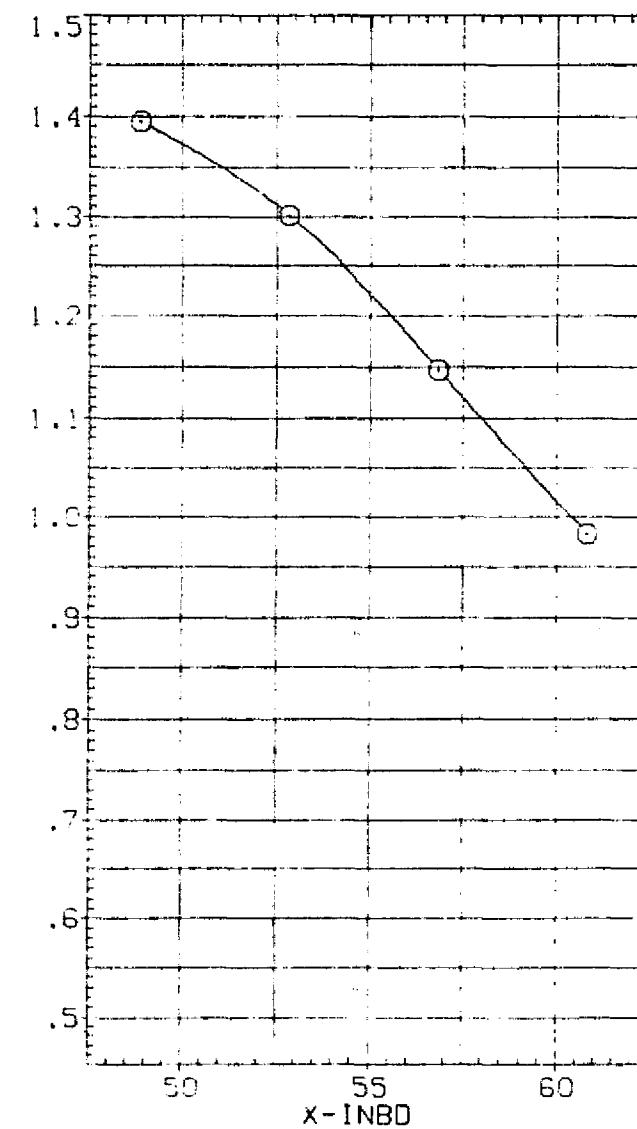


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH
O 1.152 DK
2Y1/8

PARAMETRIC VALUES
.000 2Y0/8 .550
.250

(RAP041)

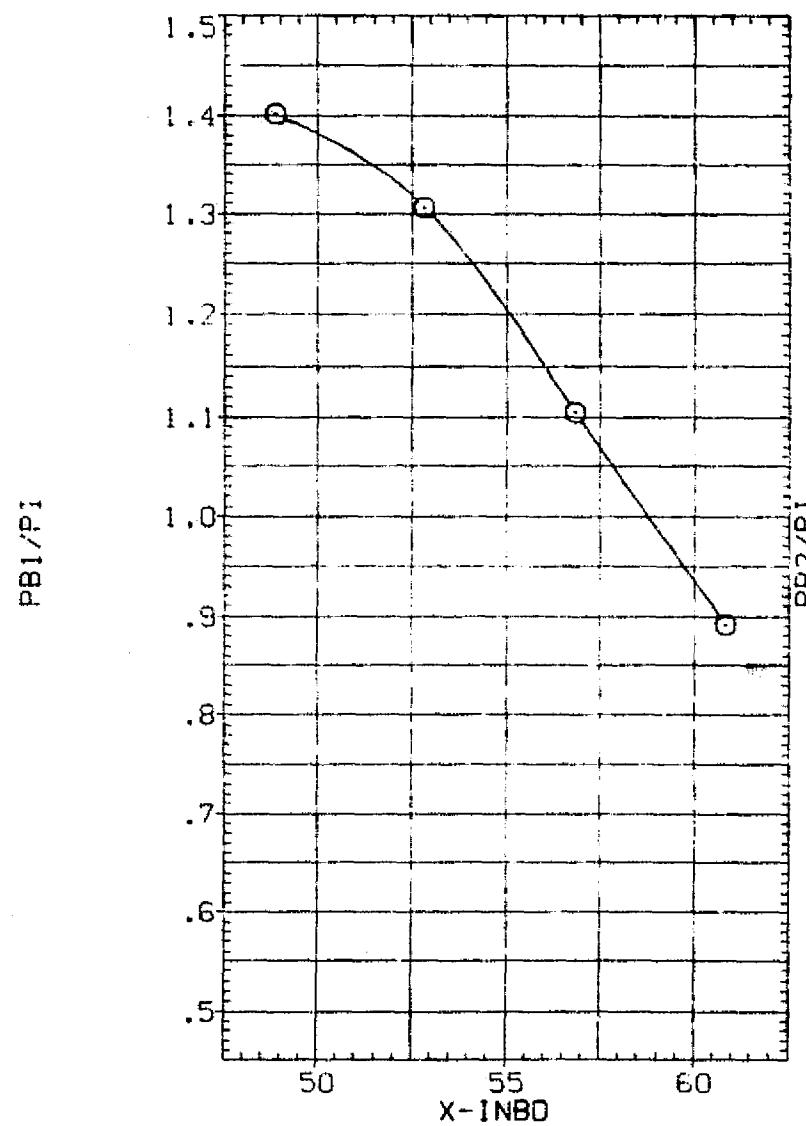
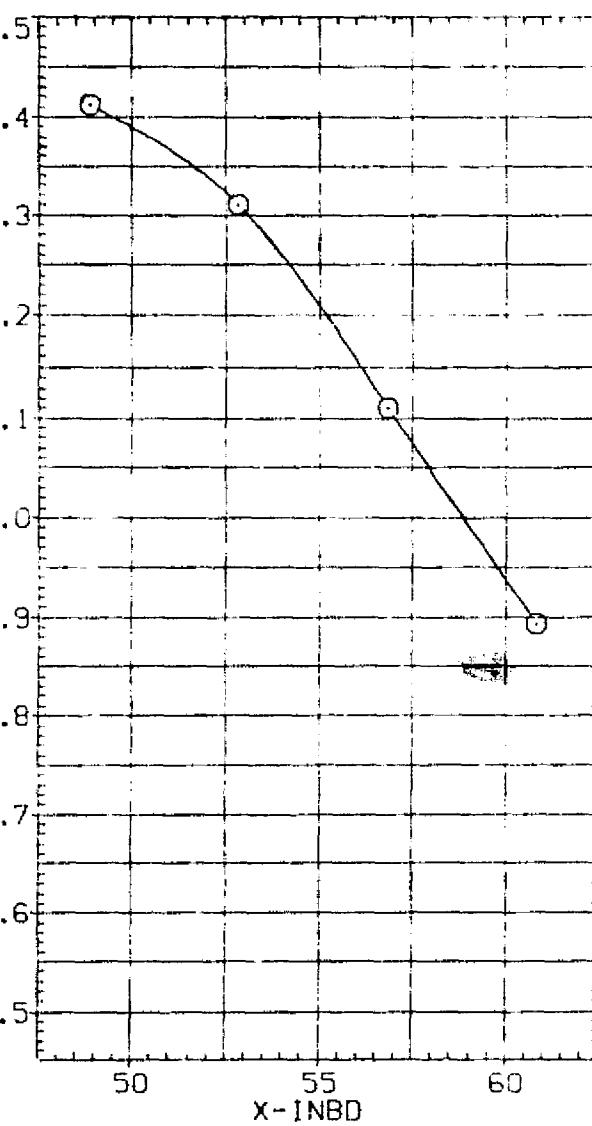
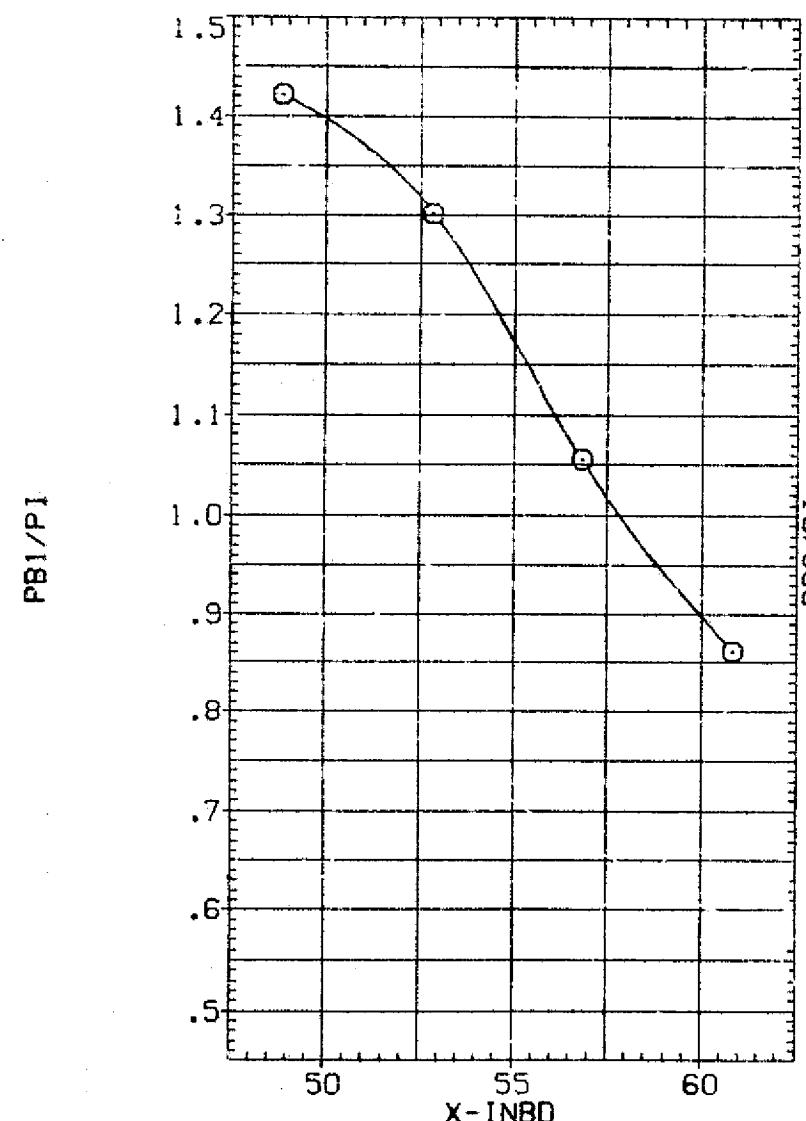


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.



W B

SYMBOL MACH PARAMETRIC VALUES
O 1.198 0X .000 2Y0/B .550
2.178 .250



(RAP041)

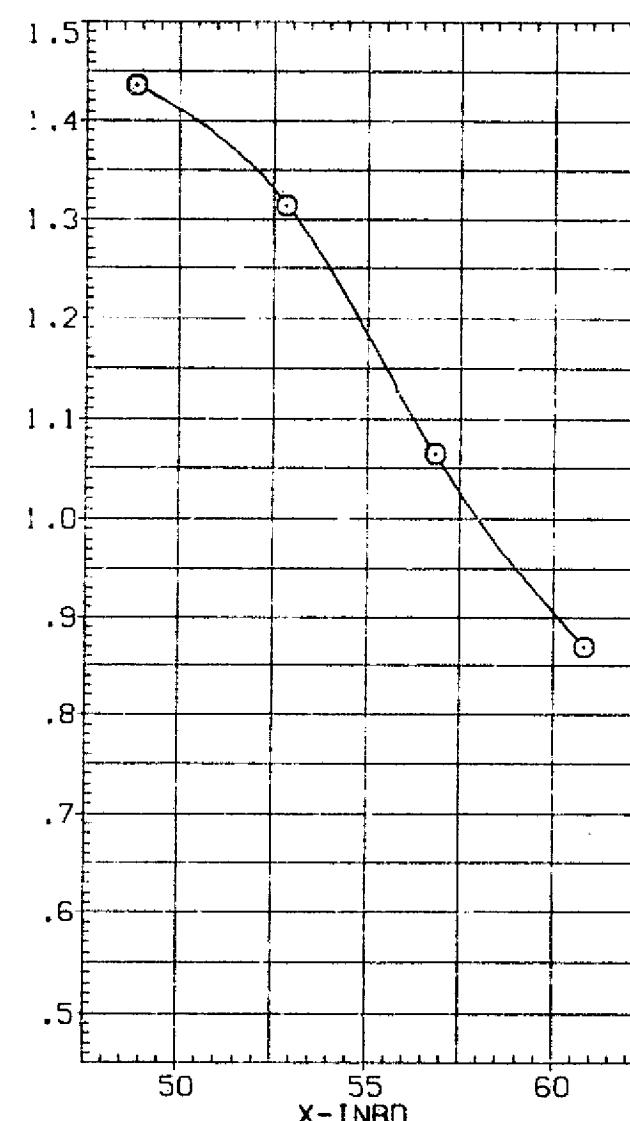


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL

MACH
1.300

DX

PARAMETRIC VALUES
.000 2Y0/B .550
2Y1/B .250

(RAP041)

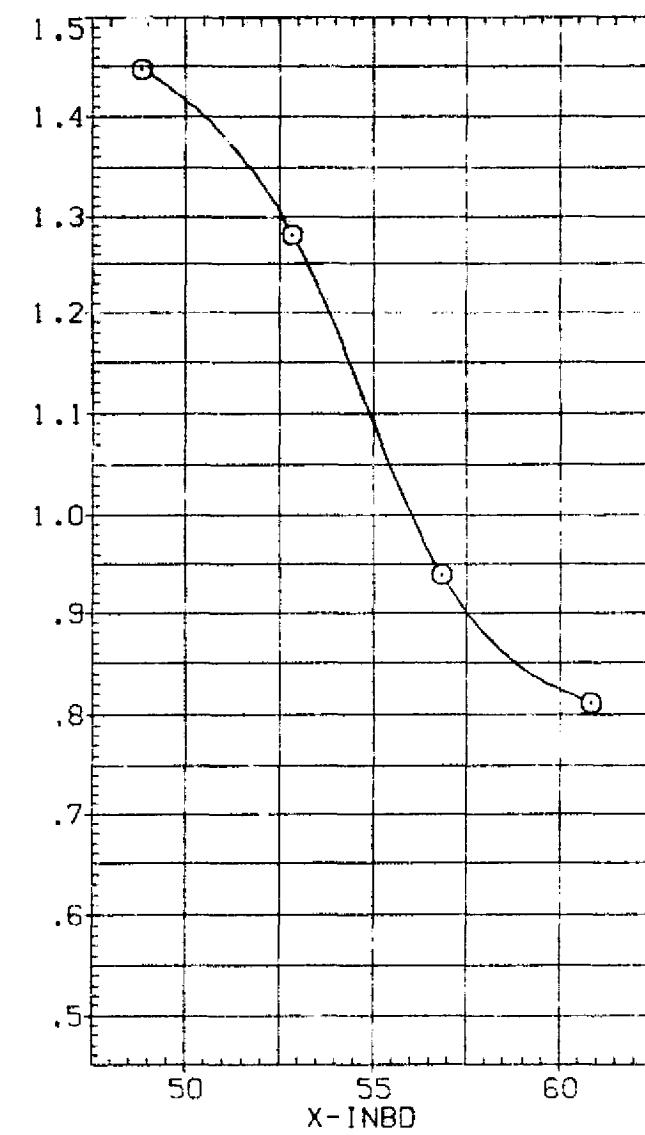
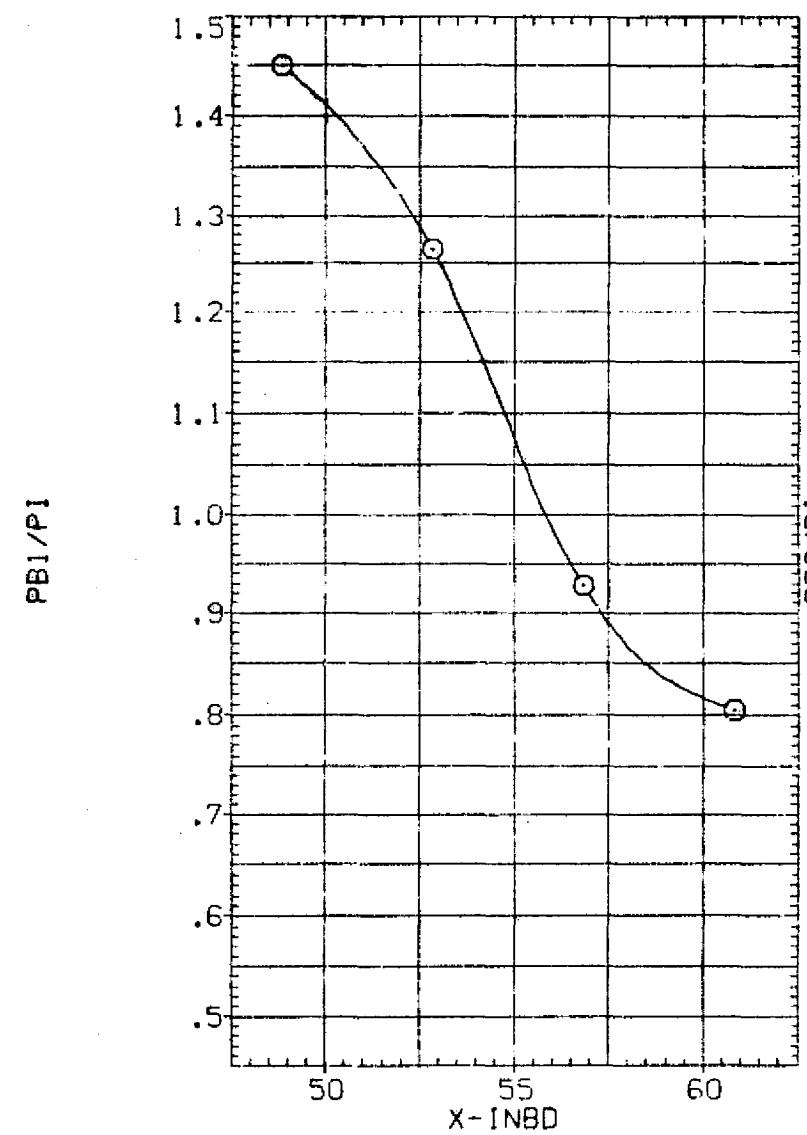


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.

W B

SYMBOL MACH

○	1.400	D_x	.000	$2Y_0/B$.550
				$2Y_1/B$.250

(RAP041)

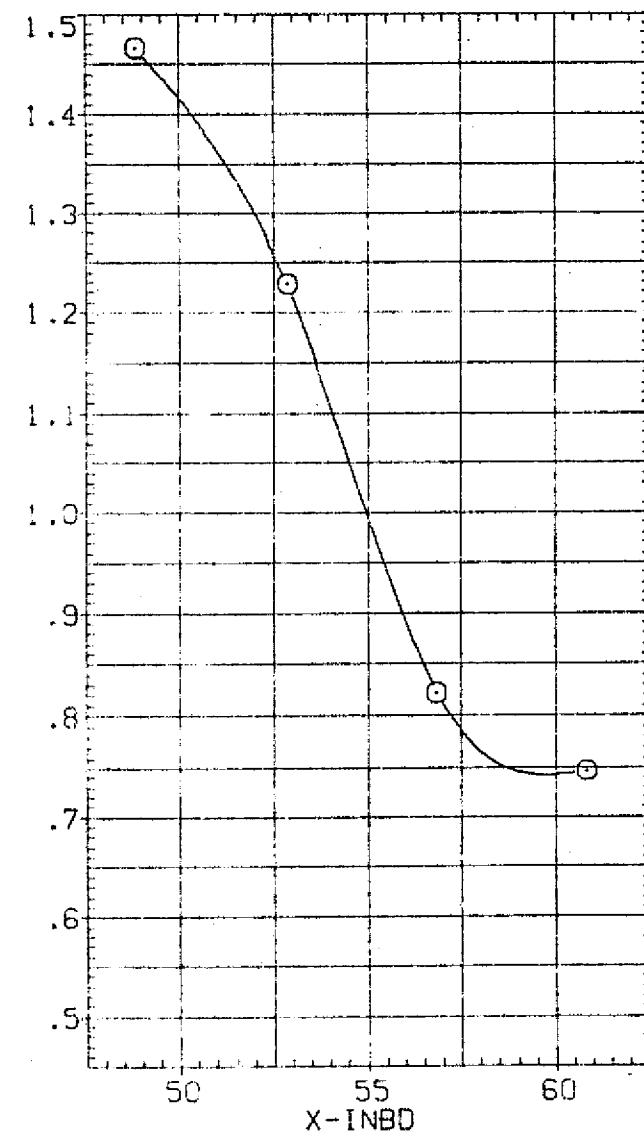
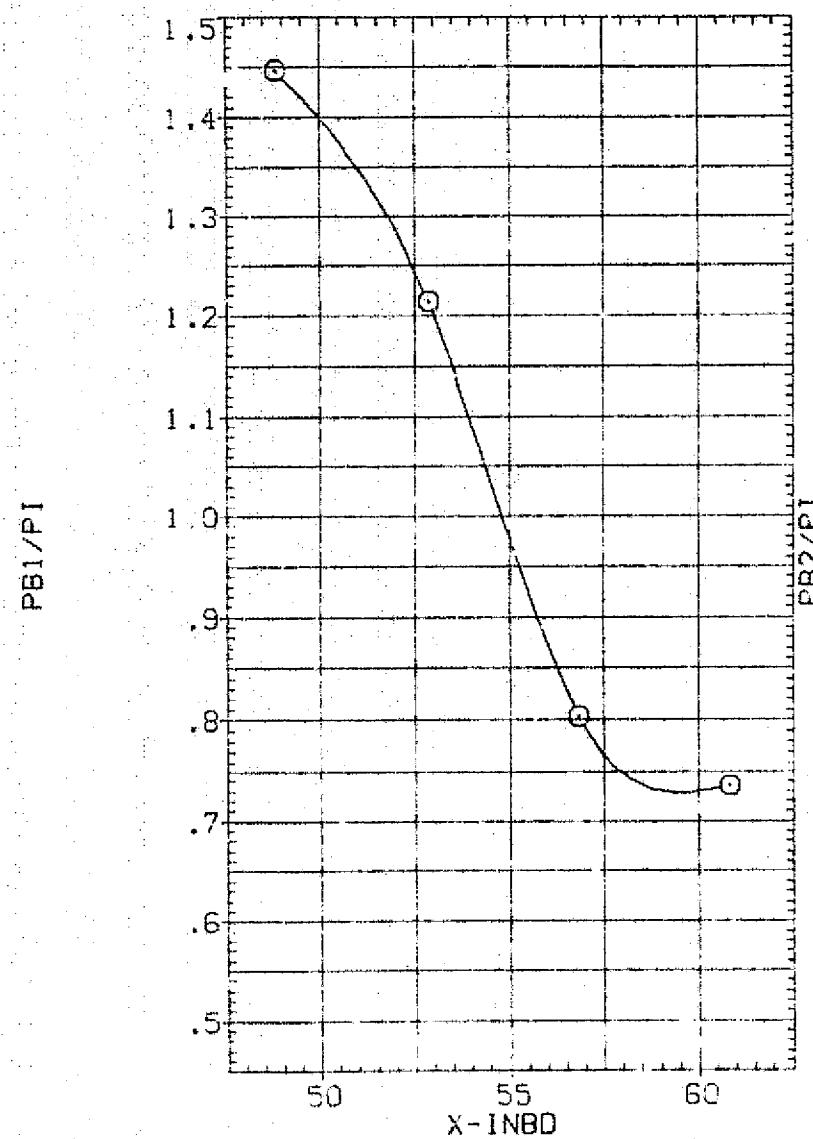


FIG. 16 EFFECTS OF SUPPORT SYSTEM POSITION ON ISOLATED WING BODY FORCES.